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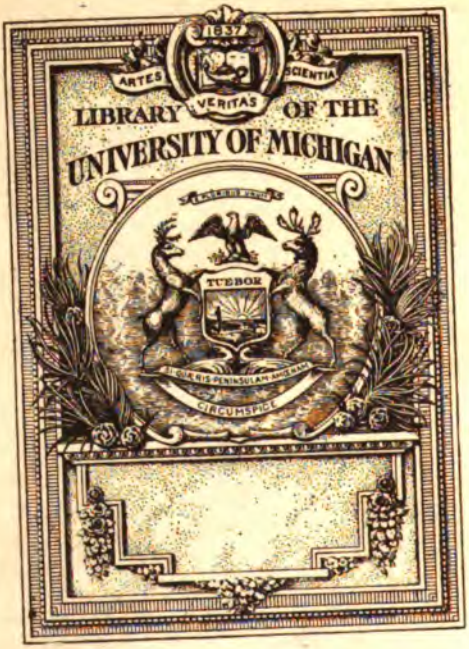

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THE NEW-YORK MEDICAL JOURNAL.

CONDUCTED BY

DANIEL L. M. PEIXOTTO, M. D.
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JOHN JAS. GRAVES, M. D.

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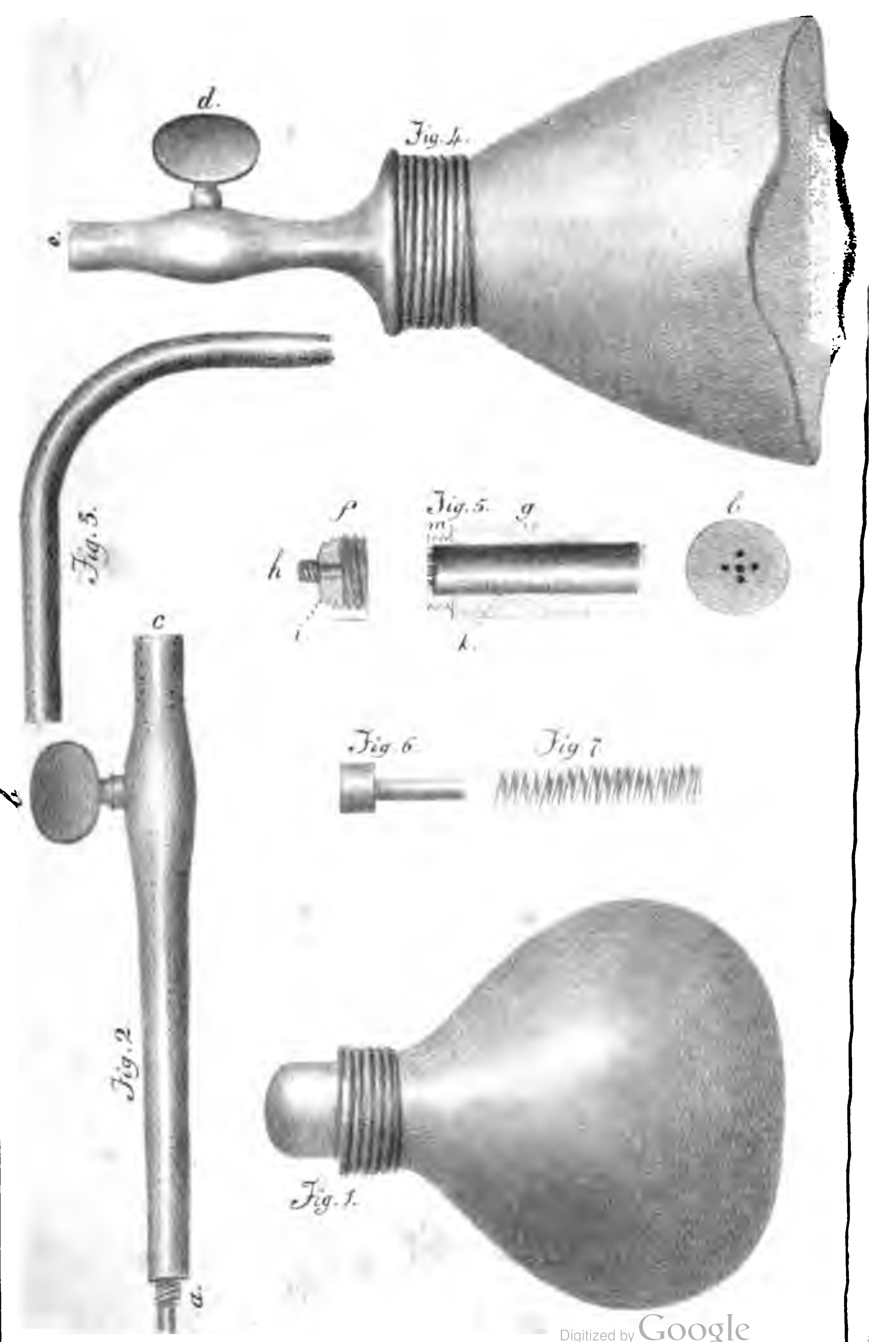

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THE

NEW-YORK MEDICAL JOURNAL.

NOVEMBER, 1830.

ARTICLE I.—*Annual Address, delivered before the Medical Society of the State of New-York, on the 3d of February, 1830. By* T. ROMEYN BECK, M.D., &c. *President of the Society.*

GENTLEMEN OF THE SOCIETY,

WHEN I last met you in this place, I had hoped that the present session would have placed before you a member more worthy of your suffrages for its public offices. I was also aware, and I feel it peculiarly at this time, that the distinction of addressing you should not be continued long in one individual. The range of subjects to be noticed is undoubtedly ample, yet their discussion by a single person may cause a sameness that will be tedious—and above all, he may at last fail, through repeated efforts, in producing that consideration, which we all desire should attach to our assemblage.

With a deep sense of these disabilities, I have selected at this time, a theme which has little of novelty to attract attention, and which hardly permits of original suggestions. Yet it is one of permanent and abiding interest—not only to us as medical men, but to the whole community. When I mention that it is the SMALL-POX, its history and the possibility of its extinction, I should not exaggerate if I added, that it concerns the whole human race. The facts constituting its annals are among the most remarkable in the whole range of medical science, and they cannot be too frequently impressed on the public mind.

It is now generally conceded, that the small-pox was unknown to the ancient Greeks and Romans. Their physicians have described the prevalent diseases in a manner sufficiently circumstantial, to be recognised at the present day, and from their silence concerning a malady so very fatal, and so peculiarly characteristic, we have strong reasons to disbelieve its existence among them. The first medical account of it is given by the Arabians.

Rhazes, an accomplished scholar and physician of that country, who practised at Bagdad, in the beginning of the tenth century, is one of the oldest writers on the disease, whose works are now extant. He, however, quotes earlier authors, and from their narratives, it would appear that the small-pox was introduced into Egypt by the armies of Omar, the successor of Mahomet. The conquests of the Arabians would thus seem to have been the cause of the wide-spread desolation of the disease; but they do not positively inform us of the country in which it originated. In China and Hindostan, indications of its occurrence many centuries since, are deduced from their traditions and their superstitions; but their earlier history is so enveloped in doubt, if not in fable, that no certain era of its commencement or its transmission can be fixed.

The facts, however, which these gleanings from ancient accounts furnish to us, correspond with the inductions of sound philosophy. In tropical countries, exposed to the heat of a burning sun, and suffering under the thousand evils of oriental despotism, it is evident that the human race must become subject to diseases of a peculiarly malignant type. The succession of ravaging armies, the destruction they brought upon conquered countries, the desolation they left within their own borders, the contamination of a fervid atmosphere, and the poverty of the lower classes, must have conspired to stamp fatality on their maladies; and, accordingly, in these regions we find the countries of the plague and the small-pox. The latter, however, was armed with a double sting. Its contagious nature, propagating itself in every climate, has rendered the inhabitants of Greenland equally its victims with the "children of the sun."

We have hardly any authentic account of its introduction into Europe. It was at one time a prevalent opinion, that it had been imported by the crusaders, on their return from the Holy Land. Their historians, however, take no notice of its occurrence in the armies, and it would appear more probable that it was brought into Spain about the eighth century, by the Saracens, and thus propagated over the other kingdoms of Europe. These followers of Mahomet were at that time a powerful and warlike nation. Their fleets were triumphant in the Mediterranean. They frequently invaded Italy. Rome itself was menaced; and they fought a bloody and desperate battle with Charles Martel, of France. Accordingly, we find allusions to the prevalence of the disease in most of these countries, in the chronicles of the middle ages.

Emerging, however, from the uncertain light which the records of these periods afford us, we find melancholy traces of its progress in the sixteenth century. Columbus had just given to the world another continent, and his countrymen hurried to possess themselves of its treasures. They carried with them the subtle poison. St. Domingo, containing, by computation, a million of natives, was in a few years deprived of the whole number, by the combined effects of the sword and this dreadful epidemic. The magnificent empire of Mexico lost, in a very short time, upwards of three millions of its inhabitants; and in several instances, whole tribes of Indians, in both Americas, appear to have been nearly extinguished by its ravages.

In succeeding years, and in other countries, its path was no less marked by desolation. In 1707, an epidemic small-pox occurred in Iceland, and destroyed 16,000 persons, being more than one fourth of its inhabitants. Greenland was attacked in 1733, and with such fatal acrimony, as almost to depopulate that sterile region. All the nations of Europe, and all the settlements made by Europeans in this country, have in turn been the victims of this disease, marked, according to circumstances, with a greater or less fatality. Indeed, wherever commercial enterprise has penetrated—wherever the sailor or the soldier has sought for conquest—wherever civilized man has visited, this dreadful malady has fastened, like the vulture of Prometheus, on the human race.

During the ages over which I have briefly glanced, the treatment was both arbitrary and fanciful. Experience was wanting, and observation was perverted. The patient, already labouring under a febrile disease, was harassed by every means that could increase the heat of the system—warm air, an accumulation of bed clothes, and heating remedies. And it is remarkable, that a peculiar colour was deemed important as a means of relief. Scarlet dresses for the patient, and scarlet coverings and hangings for the bed, were recommended by Avicenna, in Spain, and by John of Gaddesden, in England, as an effectual mode of drawing the blood to the surface, and thus eliminating the morbid humours. The remedy was carried to Japan, where it acquired great reputation, and probably is still in vogue. And it is asserted that, even at the present day, it is yet in use in Portugal.

It was gradually that better and wiser measures for relieving the symptoms of the disease came to be introduced. A few physicians, from time to time, abandoned the indiscriminate and excessive use of the hot regimen, and thus led the way for the great improvements of Sydenham. He allowed the suffering patient fresh air and lighter coverings, and interdicted the use of stimulating medicines. Viewing it as an inflammatory disease, he advises a corresponding course of remedies; and, although he may have erred in some of his directions, yet the change he induced materially tended to diminish the mortality of the disease. It remained, however, even in his hands, what it must continue to remain with physicians, not only of the present day, but of succeeding ages, a disease not to be cured, at least in the ordinary sense of that term. There are many maladies, whose progress the medical man can arrest, whose rapid effects he can instantly overcome; but he is comparatively a spectator with the small-pox. He cannot cure it; he cannot shorten its leading symptoms; he can only mitigate their violence, and ward off their dangerous consequences. From numerous data, deduced from the experience of various countries, it appears that small-pox proved fatal in one case out of every four or five, that contracted it naturally.

We arrive now at a very interesting era in the history of the disease. I mean the practice of *inoculation.* At first view, this would seem to be a most hazardous and daring experiment, voluntarily to introduce the matter causing so fatal a disease, into the human system; and, accordingly, we find that it was for many years in use among half civilized nations, before it awakened attention. It is probable, indeed, that its power of communicating the malady was a fortuitous discovery.

The most authentic accounts refer its origin to Eastern countries. In India and China, it appears to have been long known and practised, according to peculiar modes. It was introduced into Constantinople from the Morea, at a time when it was in general use, not only in Asiatic countries, but also in Barbary. It was stated to Dr. Russel, who resided long in Aleppo, that at Bagdad and Bassora, when the small-pox appeared in any district of these cities, it was the custom to give notice by a public crier, in order that those who were so inclined might take the opportunity to have their children inoculated.

It was from Constantinople, however, and from a native of that city, a Greek physician, educated at Oxford, that the English nation and Europe first derived a competent knowledge of the advantages of inoculation. In 1714, Dr. Timoni communicated to the Royal Society of London an account of the practice. He mentioned that the Circassians, Georgians, and other Asiatics, had introduced it for about forty years, among the

Turks and others in that city; that although, at first, the more prudent were very cautious in its use, yet the happy success it had been found to have in thousands of subjects, had now put it out of all suspicion and doubt. The operation had been performed upon persons of all ages, of each sex, and in the worst constitutions of the atmosphere, without any mortality following; while at the same time, it was very deadly when it seized patients in the common way. The matter was taken from some healthy person, on the 12th or 13th day of sickness, preserved in a close glass vessel, and when to be used, it was mixed with the blood issuing from small wounds made with a needle in the arm, and inserted into them.

Other physicians continued their communications from Turkey; but the individual who more particularly attracted the attention of the British public to it, was a female, Lady Mary Wortley Montague, the wife of the English ambassador at the Ottoman court. Witnessing the success of the practice in numerous cases, she determined to have her own son inoculated, and the operation was accordingly performed by Mr. Maitland, surgeon to the embassy at Pera, in 1717. The consequent disease was very mild, and the patient very readily recovered.

On her return to England, she requested Mr. Maitland to inoculate another child, a daughter, which, after some demur, he consented to do. This was in 1722, and it was the first case in England. Several physicians witnessed the success of the experiment, and spoke favourably of it. The high rank and fashion of Lady Mary Montague also aided in giving it notoriety throughout the kingdom. But it was still deemed a dangerous practice. At the instance, however, of the Princess Caroline of Wales, who had nearly lost one of her children by the natural disease, and was very anxious to preserve the rest from so direful a malady, a more extensive trial was made. Six criminals under sentence of death, were offered the alternative, of suffering according to their sentence, or of submitting to inoculation. They embraced the latter, were inoculated by Mr. Maitland, and all passed favourably through the disease.

The impression made by these results was heightened by information received from America. The small-pox, after an absence of nineteen years, had revisited New-England, and was very mortal in Boston. This had induced the Rev. Mr. Mather to reprint the accounts of Timoni and others, concerning inoculation, given in the Philosophical Transactions. The publication was distributed among the medical practitioners, and its perusal induced Dr. Boylston to commence the practice upon his own child, and afterwards throughout the place. In the course of six months, he inoculated two hundred and forty-four persons, but of these six died. So also in England. In a few months a mortal case occurred in an inoculated patient, and several servants attending on it, were all seized with the natural small-pox. Effects so contradictory to the assertions of Mr. Maitland, who had stated that the inoculated disease was uniformly mild at Constantinople, and who, above all, had denied its infectious nature, were calculated to repress the rising partiality for it. A bitter and wordy controversy ensued. Inoculation was denounced by the press and from the pulpit, and its defenders were only listened to after the period of popular ferment had passed. Dr. Jurin, an eminent physician, examined the subject in a manner that all could understand. He looked into the bills of mortality for London, during a period of forty-two years, and also into accounts of deaths collected from other large cities, and he compared the numbers who died of the small-pox with the general mortality. From all these he deduced the facts, that of persons of all ages taken ill with the natural small-pox, there will die of that distemper, *one in five or six.* But from the inoculated disease, according to the experience both of England and America at that time, only *one case in fifty* had proved mortal.

An argument of such import could not fail, in time, of producing its proper effect. The practice also extended in a favourable manner over Europe, and in various parts of our own continent. A hospital was established in London, under powerful patronage, for the inoculation of the poor; nor was it its least benefit, the temporary removal of patients from the community, whom they might otherwise infect. Finally, two practitioners, named Sutton, improved materially both the mode of communicating the infection, and of treating the disease. Inoculated small-pox was now deemed to prove fatal only in about one case in two hundred.

Such are the annals of this disease, down to the conclusion of the eighteenth century. Though its mortality was diminished, and its appearance no longer deemed the harbinger of death, yet it still proved destructive to thousands. In some countries, the natural small-pox would occasionally break out with fierce and irrepressible energy. In others, even the inoculated would prove lamentably fatal. At the beginning of the eighteenth century, according to the bills of mortality for London, about one fourteenth of the inhabitants died annually of the disease. During the last thirty years of the same period, although the practice had been greatly improved, and inoculation extensively pursued, yet the mortality had augmented to one tenth. The loss of lives from 1770 to 1800, in Great Britain and Ireland alone, exceeded 35,000 *annually*. In other countries, the proportion was often greater, seldom less. Human skill seemed deprived of power to mitigate or diminish these melancholy results.

In 1798, however, a discovery was announced to the world, which promised some respite from the destroying scourge. Dr. JENNER, a physician residing in a country town of England, presented an account of a disease, which in his opinion checked the influence of small-pox on the human system. He appears to have inquired into the subject, during the space of thirty years, and evidently pursued it in a spirit becoming the pupil of John Hunter. His experiments with the vaccine matter were made in cases that admitted of full examination, and under circumstances calculated to decide the doubtful point which he presented to the public. But his discovery had scarcely been announced, before others endeavoured to partake of the honour due solely to him. Their attempts to appear as the apostles of vaccination, ended in an exposure of their ignorance of its phenomena, and more unfortunately impeded its popularity and proper diffusion.

On a subject of such magnitude, it was not possible but that there should be diversity of opinion, and particularly among the medical profession. But it is one of the most enduring triumphs of the latter, that they, after due trial, by immense majorities, sanctioned its value, and extended its use over every quarter of the globe. As members of the human family, they rejoiced at the prospect of the extermination of a direful pestilence—as brethren of the profession, they joyfully abandoned the emoluments of one of its most lucrative parts, for the propagation of a disease (if disease it could be called) comparatively mild, and needing but little of their attendance.

I will not occupy your time in tracing the history of the life of Dr. Jenner, which indeed is the history of vaccination. The obstacles he met with—the envy he encountered—the prejudices he overcame, and the final triumph of his efforts, are all too recent to need repetition. His country, partaking, in some points, of the character of our own, is occasionally tardy in awarding the meed of merit. But if there be any thing in this life worth living for, apart from the hopes of immortality, Dr. Jenner must have enjoyed it; and he has gone down to the grave with a reputation that, in the days of Greece and Rome, would have ranked him with their gods and heroes, and in our own, has placed him among that select and honoured few—THE BENEFACTORS OF MANKIND.

The impediments, however, to the complete and perfect diffusion of vaccination, and the consequent extinction of small-pox, have been numerous; and to a consideration of the principal of these, I propose devoting the remainder of this discourse.

1. The first I shall mention is the imperfect knowledge which unavoidably attends the promulgation of a new disease. Jenner studied it for thirty years, before he announced it to the public; but his experiments even then, though satisfactory as to their results, were few in number. After vaccination became known to the British public, thousands supposed themselves equally competent with the discoverer to inoculate for it, and to decide whether the appearances and symptoms present constituted the real disease. They pursued their doubtful course without studying its characteristic marks—heaping mistake on mistake, and laying the seeds for subsequent and bitter disappointment. Others, we regret to add, took no precaution with regard to the matter used. In some instances, it was undoubtedly taken from persons labouring under small-pox, and thus produced that loathsome malady. The alternative was to confess their ignorance, or to heap opprobrium on the new disease; and in some cases, there was no hesitation in embracing the latter. Even where this could not be charged, and where no suspicion could be entertained, either of ignorance or malevolence, there was unfortunately used a mixture of the variolous and vaccine matters. Again, during the period of enthusiasm consequent on an ill-timed and contemptible opposition, men out of the profession volunteered to practise the required inoculation. They supposed that nothing was necessary but to make an incision, insert the matter, and then the patient was protected. They were not aware of the circumstances indicative of its pervading the constitution, or of the peculiarities which characterize the external marks of the true disease. It is now well understood, that every interruption in the regular progress of the local inflammation, may cause a failure in the cow-pox itself, and that it is imperative, in most cases, if we wish to secure the individual, to revaccinate, or to repeat the insertion of the vaccine matter, during the progress of the current infection. Peculiarities of constitution are also to be noticed, as some resist its power in a most decided manner.

2. The influence of so subtle a contagion as that of the small-pox constantly pervading the atmosphere, and diffusing itself peculiarly among the crowded and indigent population of our large cities, has greatly tended to suspend the benign effects of

vaccination. The former extends itself in an unseen manner. It is the arrow by night, and the pestilence that walketh at noon day. The cow-pox, on the other hand, must be communicated to every individual in succession—it does not propagate itself. Hence the contest must be unequal, and the result, during the last twenty years, has been the appearance of a disease which, with considerable propriety, has been termed the *varioloid*, It is not necessary to enter into its history, further than to say, that a large portion of the cases assigned to it, have undoubtedly been instances of natural small-pox—another part, the same disease, in persons imperfectly vaccinated, and therefore not secured—while some are unquestionably cases of a second attack of small-pox. That this does occur, and not unfrequently, has been proved by the observations of most modern practitioners. But subtracting all these, it would still seem that there are a few, but comparatively a very few, on whom vaccination has been performed with every precaution and with its proper results, and yet who, during the prevalence of the contagion, have suffered under this modified small-pox. But the symptoms in these are much less severe, and the disease is shorn of its usual malignity. Even taking into consideration doubtful cases, it would appear from statistical observations, that under such circumstances, one fatal instance only, in every three hundred attacked, has been witnessed; and, some indeed are disposed, on good grounds, greatly to increase this ratio. Can there be a more convincing proof of the efficacy of vaccination, if generally diffused!

6. And this brings me to another, but the most effective obstacle to the extinction of small-pox. It is the inattention—the indifference—the forgetfulness, of the community and of governments, to its character and consequences. When a nation enjoys for a few years exemption from it, a new generation springs up, most of whom have never been secured from its attack. The sky is cloudless—the mariner trusts to the winds to carry him safe, but he forgets that the monsoon may break up in a moment and overwhelm him in destruction. A case of natural small-pox is heard of in faint whispers.—It has been brought by a vessel or by an individual from some distant place. He communicates the contagion—every person sickening, scatters the poison wider and wider; and before we are aware of our danger, the plague threatens every dwelling. Vaccination is resorted to, in a hurried manner. The matter itself, in these cases, must be tarnished in its qualities through the all-pervading influence of the disease; yet we succeed in arresting the epidemic. A season of security follows, and

time is again allowed for re-enacting the same scene, some twenty years hence.

Can it be that our governments guard the lives of our citizens with sufficient care on this point? Let us observe what is done under despotic governments. In Denmark, by an edict issued in 1816, and addressed to all magistrates and bishops, it was ordered that all should be vaccinated; and without a compliance with this requisition, no individual could be received at confirmation, admitted into any school or public institution, or bound apprentice to any trade. The clergy were also forbidden to marry those who had not had either the small-pox or the cow-pox, and it was strictly enjoined, that in case of the former breaking out in any district, the proprietors should give immediate notice thereof to the proper authorities. The consequences of these peremptory measures have been as follows: During the twelve years preceding the practice of vaccination, 5,500 died of the small-pox in Copenhagen alone; whereas, since its introduction (1802) down to 1808, the deaths from it throughout the whole Danish dominions, were only 158.

In Prussia, the law forbids any one to approach a house in which the small-pox exists, and no variolous patient is allowed to expose himself abroad, until a medical man has certified that it can be done without injury to the public. All the costs of attendance are to be defrayed by the parent or master of a family, through whose fault or negligence the disease has been introduced. And in order to encourage vaccination, the expenses of parents and their children, during the time they are passing through it, are defrayed by the state. Formerly 10,000 died annually in the Prussian dominions of small-pox. In 1817, only 2,940.

In Bavaria, by a royal edict, it was ordained that all persons above a certain age, who continued to neglect to be vaccinated, should be fined by an increasing penalty every year, so long as they refused to take this means for their own protection. None were to be exempted from this fine, except they had previously laboured under one or other of the diseases—had been thrice vaccinated without effect—were below the prescribed age—or possessed a certificate from an authorized vaccinator, stating that ill-health, or some disease in the system, made it proper to defer the operation. Houses in which variolous patients resided, were placed in quarantine for a month, and inoculation was forbidden under heavy penalties. In eleven years succeeding the promulgation of these laws, only five deaths happened throughout the kingdom from small-pox, and 162,000 were vaccinated.

In the kingdom of Wirtemberg, laws equally imperative with any that I have mentioned, are in force.

I do not pretend to recommend laws exactly similar to those that have been enumerated, for our free governments; but I will say, that they furnish subjects for serious consideration. Whether some regulations could not be devised to arouse the apathy of that portion of the community, who are always the largest sufferers: Whether the appointment by authority of medical men, particularly charged with the duty of vaccination, and preserving and transmitting the vaccine matter, and obliged to keep registers of those they attend: Whether the promulgation of instructions, stating the dangers that threaten, the misery and mortality that may be avoided, the circumstances that prevent the complete influence of the cow-pox, and the precautions necessary for its constitutional effects: Whether, in fine, a census should not be taken of those who have not laboured under one or other of these diseases, and they be compelled, under proper penalties, to submit to the latter—are suggestions, which to my mind, deserve some weight with those who have the power to render them imperative.

Life can be hazarded under our own roof, as much as in the field of battle, and the experience of all nations shows, that in this case, the chances have been fearful. When the means of prevention are within the power of a determined and united community, what can prevent their adoption with as much efficacy as ever resulted from the mandates of an absolute monarch?

As a profession, we have not been wanting in sounding the alarm and providing against the danger. And it is a proud reflection, that the dangers of the small-pox, its wide-spread ravages, and its constant succession, have been broken in upon by one who lived and died a physician. But we must be insensible to the loftier bearings of the subject, who can leave its consideration, without referring to the government of that Being, in whose hands are the "issues of all things."

Its history teaches us gratitude to that Providence which does not willingly afflict the children of men; which suffers physical as well as moral evil only for a season; and which, while it has permitted former generations to be scourged by ravaging infection, has, in mercy to us, removed the dreaded pestilence, or confined the operation of its destructive march.*

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* The works that have been particularly consulted, are, Woodville on Inoculation; James Moore on the Small-Pox and Vaccination; Munro (Tertius) on the Small-Pox; Thomson and Cross on the Varioloid, &c.

ARTICLE II.—*Remarks on the present state of the Medical Profession in Great Britain and France. By* S. W. AVERY, M. D. *of New-York. (Read before the Medico-Chirurgical Society of New-York.)*

IN complying with the rules of this society, I propose laying before you some desultory remarks upon the present state of our profession in Great Britain and France—the result of observations and reflections during a recent visit to those countries.

I believe it will be readily admitted, that no man goes abroad with fewer national prejudices to overcome, than an American. Born under a government yet in its infancy, he has comparatively few, if any, of those proud notions of grandeur and antiquity, so constantly associated in the mind of most Europeans with the recollection of ancient greatness, and a long and illustrious succession of monarchs. While a British colony, as we received our merchandise, our governors, our laws, our learned men, &c. from England, we looked to her as a mother, ready at all times to redress our wrongs; our prejudices were all on her side; in a word, our feelings were those of Englishmen. But when driven by tyranny and oppression to deny her authority, and enter the lists against her, we sought and found succour among her ancient enemies; and, forgetting our early feelings, learned to respect them. Since we became an independent people, we have drawn on other countries for their richest products and finest fabrics; we have copied their improvements in the sciences and useful arts; we have eagerly followed their advances in learning, and borrowed from them all that is most excellent in civilization and refinement; consequently, we have been taught to reverence their opinions as those of our superiors, in many respects; their children have been alike received by us with open arms, and the word stranger has been a passport to places of trust and emolument, and to all the best privileges of society.

Blinded by no undue predilections in favour of any foreign nation, but as ready to see the defects as he is sensible to the excellencies of all, the American traveller may be considered as, in a great measure, impartial, when compared with most Europeans; and, though he has only to go abroad to fall in love with his own country, he must be more than vain, to see nothing but perfection in her infant institutions, or to undervalue the vast and venerable establishments of others. To England, undoubtedly, we owe more than to any other country—our language, our literature, the models of most of our institutions, &c.; but the differences which have existed between us, though, I trust, they have not rendered us ungrateful, have at least cured us of any overweening partiality for every thing English, while the attention generally paid to foreign languages among us, has enabled us to understand and estimate the literature and scientific improvements of other nations.

In accomplishing the task I have undertaken, though much might be said respecting the education and practice of medical men in Scotland and Ireland—much that merits praise, and, doubtless, some things that deserve censure—I shall confine myself to the great metropolis, which may be truly said to be the vast arena for the exhibition of learning, talents, and enterprise, as it is, in many other respects, the representative of the United Kingdom.

London, with a population of between a million and a million and a half, presents, as may be easily conceived, very considerable advantages to the student of medicine; but to enjoy them all is only within the power of the influential and opulent. Its great hospitals are so many schools, where men of the first talents devote a portion of their time to giving instruction in the different branches of the healing art, and where abundant opportunities are afforded of acquiring practical knowledge; and the student may devote himself principally either to the study of physic or surgery, and at length obtain the honours conferred by the college of Physicians or Surgeons. But there are defects in this system of education, which must strike the most inattentive observer. The pupil, for instance, of St. Bartholomew's, knows little or nothing of what is going on at Guy's and St. Thomas's, or St. George's; he becomes wedded to the peculiar opinions and doctrines of those who happen to be his preceptors, and is too apt to think that correct practice is only to be found within the walls of his own hospital, and to undervalue or despise the instructions given at the others, for the cogent reason, that he knows nothing about them. The prejudices of education thus imbibed, will be carried through life with him, and, to a greater or less extent, impart a character to his modes of thinking and practice. Far be it from me to insinuate, that the course of instructions given at any one of these hospitals is decidedly faulty, or that the student cannot become a judicious practitioner at either. But there is good and bad in every thing human, and it is only by extensive observation and comparison, that we learn to choose the good and reject the bad; and the student who is confined to any one of them, loses a vast deal of valuable matter that might be acquired at the others not to mention the more liberal and expanded ideas produced by more general observation.

Besides the regular courses of lectures delivered at the hospitals during the winter, many of the attending physicians and surgeons are in the habit of giving clinical instructions, which, from their combined talents and experience, you will at once conceive must be very valuable. But I cannot refrain from giving you a specimen of those which I heard of Mr. Brodie's, as near as I can recollect, in his own words; and if the specimen is not greatly to the credit of one from whom better things might be expected, allow me here to disclaim even the least invidious feeling towards that gentleman, or a wish, were it in my power, to pluck a single leaf from the well-earned laurels that entwine his brow, but to place every thing before you in its true light.

(Lecture —.) Case No. — is that of a poor boy, gentlemen, who has had a severe inflammation of the leg. It seems that the poor boy was obliged to go out and work and expose himself in wet weather. He says his shoes were worn out, and he had sent them to be mended, and in the mean time had only a very bad pair to wear, which were full of holes, and did not keep his feet dry. Now it appears, gentlemen, that as a consequence of going out with these bad shoes in wet weather, the poor boy took cold, and an inflammation took place in his leg, accompanied by great pain and fever. This inflammation at last terminated in suppuration, and matter was collected in the neighbourhood of the tibia. The matter was discharged by an opening, and on examining the part with a probe, a piece of dead bone was found at the bottom of the wound.

Is this the clear and succinct account of a simple case, (with the two pair of old shoes,) which we should expect, and reasonably too, from one of the first practitioners, and surgeon to one of the first monarchs of the present age?

The hospitals are not the only foci of medical learning in London. As you are well aware, schools of considerable respectability are established in different parts of it, and conducted by most distinguished men, many of whom, as well as the most eminent of those who lecture at the hospitals, exhibit a degree of professional learning, improved and ornamented by general erudition, and rendered doubly interesting by the captivating charms of elocution and rhetoric, worthy of the teachers of a liberal profession of the greatest city on earth. To attempt to point out the peculiarities of all, or even of those in the front rank of celebrity, would be trespassing upon your time and patience.

A serious evil, growing out of the division of the profession into physicians and surgeons, and general practitioners or surgeon apothecaries, is the compelling the student of the latter to serve at least five years in compounding or putting up medicines, or carrying them to his master's patients. In this way five years, and that too at the most important period of life, are spent in learning what, at a later period, may be easily acquired in as many months; and as he is usually indentured at the age of fourteen or fifteen, his preparatory education must be next to nothing, and the habits of abstraction and application to books, commonly formed before the age of twenty, give place to the pestle and mortar, and the neatly folding a prescription. In addition to this service, he must attend lectures, and witness the hospital or dispensary practice of a regular physician, in order to be entitled to the privileges of a class of men who practise all branches, and in fact do the great mass of business. For studying the collateral branches, as botany, mineralogy, &c., London affords no remarkable facilities, and the great difficulty of obtaining subjects renders the private prosecution of anatomical studies next to impossible.

We turn now to the advantages which the French capital holds out to the student of medicine—advantages unrivalled in any other city, and in which, by a degree of liberality equally unrivalled, the foreigner may participate alike with the subject. The school of medicine opens her gates to the whole world, and distributes her prizes and bestows merited honours without any reference to country. Europeans and Americans, from Finland to the Mediterranean, and from Canada to the La Plata—the sable native of St. Domingo, and the turbaned Mussulman of the Nile—indeed, the children of almost every land, are seen crowding her portals. For twenty-five dollars a year complete courses of lectures on all the different branches of medical science may be attended, together with admission to all the hospitals, unless the student intends graduating, when he is required to study four years, and pay one thousand francs for all the expenses of a degree, or less than fifty dollars per annum. The extensive library of the school of medicine is open three days in each week during the winter, and the anatomical museum, cabinet of surgical instruments, and cabinet of materia medica, on the alternate days, without any expense. The students are examined four times a year, and prizes distributed to the most deserving. But the most remarkable advantages for which Paris has long been celebrated, are the great facilities for studying anatomy, and the immense hospitals. The greatest abundance of subjects may be had for one or two dollars each, and the student prosecutes his dissections without the least fear of interruption. The rooms of L'Ecole Pratique are inspected by the police; bodies are not allowed to be kept beyond a certain number of days, and chloride of lime is used to remove any unpleasant effluvia. One of the consequences which I think I have remarked of this great ease of obtaining bodies is, that the student does not generally economize the parts, or examine them with that extreme care he is apt to do when they are less readily obtained; and instead of becoming a minute anatomist, he acquires a thorough knowledge of what may be called coarse anatomy—the relative situation of parts, and a dexterity in cutting down to, and exposing different organs, vessels, nerves, &c., so valuable in the exercise of operative surgery. The hospitals (to which the student has free access) afford at once the most abundant means of studying morbid anatomy and pathology, and are an inexhaustible field for cultivating an acquaintance with every possible form and stage of disease, and the effect of the most diversified plans of treatment. At several of them clinical lectures are given, with demonstrations of morbid anatomy, surgical operations, &c. Among these, the course delivered by M. Dupuytren, at the Hôtel Dieu, is considered the most valuable, as attested by the crowds that constantly visit that hospital. His manner is calm, dignified, and dispassionate, without any of the fervidness and enthusiasm that generally characterize the French public speakers. His enunciation is clear and distinct, and his style remarkable for its plainness and perspicuity. He details each case with the strictest observance of system and regularity, forcibly impressing upon his hearers all its most important and leading features, the diagnosis, prognosis, indications, and treatment; and the most marked pains are taken to prevent confused ideas of the case, or misconstructions of his meaning. In a word, he is by far the most finished clinical lecturer I have ever heard, and the anxiety exhibited in getting seats in his amphitheatre, and the breathless attention with which he is listened to, prove that this is not my opinion only. After his clinique, he prescribes for a crowd of out-door patients, who come for advice; and would that I could declare his deportment to be mild and gentle towards them; but I regret to say, it is the reverse of this. He attends but for a moment to their recital—flies in a rage if from ignorance or fear they answer him incorrectly—roughly lays hold of their nose or hair, if he wishes to examine their eyes, or turn their head; and, having prescribed, drives them from his presence, as if they belonged to an inferior grade of animals, and were unworthy of a kind look or even a civil word, from so great a personage. It must be stated, that the exercise of a humane profession which *emollit mores nec sinit* *esse feros*, has done very little towards humanizing the character of M. Dupuytren.

M. Roux's clinique at La Charité is well attended, though by a much smaller number than M. Dupuytren's. His manner is hurried, and his delivery rapid, and at times incoherent. His style is diffuse, and his expressions are often, if not vague, at least not so definite as always to render his meanings perfectly intelligible. A very interesting course is also given in the medical department of the same hospital by Chomel, with an almost daily exhibition of morbid parts, thus enabling the student, after having watched the external signs of an obscure disease, to examine its ravages among the internal organs.

A considerable number of students attend Lisfranc's course at La Pitié, notwithstanding a degree of trick and parade, and an air of coarse vulgarity which marks his manners, and language more befitting the Charlatan than a member of the faculty of Paris; while the censures he unsparingly bestows upon his confrères, are not calculated to place his liberality of sentiments in the most conspicuous light. The title by which he is now and then pleased to designate the venerable Boyer—le barbier de la Charité—may answer as an example.

During the summer, M. Biett gives a course at St. Louis on diseases of the skin, which is probably not surpassed in excellence in any country. In this branch he holds a rank to which very few can ever attain; yet the candid manner in which he treats the writings and opinions of the savans of other countries, particularly those of England—at once indicative of true philosophy and a liberal and expanded mind—have drawn upon him the reproach of some of his compatriots, and the epithet of Anglo-maniac. But M. Biett is beyond the reach of petty invective, or the viper fangs of envy and malice.

To each hospital is attached a number of students, who are well advanced in their studies, in the capacity of house pupils, called interns, who receive a small salary; and a similar number without salary, called externs, who are candidates for the place of intern. These places are awarded as prizes to those who pass the best examinations, and are a powerful incentive to application and industry, and the competition for them often calls forth no inconsiderable exhibition of talents. During the summer months, the garden of plants, open to every one, presents the most captivating charms to the lover of botany; and the menagerie of wild animals, and one of the most extensive cabinets of natural history, afford the means of studying zoology and natural history, while the King's library, always open, containing 800,000 volumes, is an inexhaustible fountain of ancient and modern lore. With a degree of munificence as honourable to the French government as it is creditable to a refined and enlighted people, all these splendid opportunities for improvement are enjoyed by the foreign licentiate, without expending a single sous; consequently, Paris is the grand rendezvous for the whole world; or, as is more elegantly expressed by Bichat, Paris est le centre de toutes les sciences et la patrie de ceux qui s'y a donnent. C'est le théatre au brillent tour a tour les hommes célébres de chaque art.

Having thus hastily passed in review the systems of medical education in London and Paris, we will draw some comparison between the actual state of the profession and practice in each. I look upon the division of medical men in London into physicians and surgeons and surgeon apothecaries, to be an evil whose consequences are incalculable, and tending to subvert the best interests of the profession as an honourable and humane institution. Not that I object to certain individuals devoting themselves exclusively to the exercise of a single branch, as their genius or inclination may lead them, for no one can doubt the good effects of such a division; but to the educating and confining men by laws to these branches. I shall not occupy your time by entering upon a detail of the restrictions and privileges of these separate bodies, which are unquestionably well known to you; but will mention what has struck me as one of the greatest evils of this system. The apothecary, as just stated, is a general practitioner, not allowed to charge for services, but for medicines only; of course, makes it an invariable rule to leave his patient, without mercy upon his stomach, such a number of draughts and doses, as, at a regulated price, will pay him for his time. I have heard an apothecary say, on coming out of the sick room, I must send six draughts more to-day, which, at 1*s.* 6*d.* each, will make 9*s.*, and a powder to be taken at bed time, 1*s.*, will make ten shillings, which will pay me for my visit. If the case is at all severe or obstinate, the physician or surgeon is called in, who gets his guinea for advice, and, in order to compensate his friend, the apothecary, orders pills and powders with no sparing hand; and it is notorious that many physicians receive of the apothecary a per centage on all medicines put up at their prescription; so, between the doctor and apothecary, the poor patient is sure of being well dosed, and having his pockets eased, if his maladies are not.

In France, the profession is regulated upon a footing not materially different from that of this country. An individual may practise one or all branches, as he pleases. There is one regulation which appears to me indicative of sound policy, and calculated to encourage laudable ambition and industry. When a vacancy occurs among the physicians or surgeons attached to the hospitals, it is always filled by competition. Public information of the vacancy is given by the proper authorities, and an invitation to all who are desirous of filling it, to come forward and contest their claims; and the best written and best defended medical dissertation usually obtains the place. These situations are commonly held by very zealous and industrious cultivators of the profession, who not unfrequently sacrifice their lives to their ardour and application. I will barely mention a single fact in proof of the above statement. Most of them commence their morning visits at the hospitals, even in the shortest days in winter, at 6 o'clock, and those who deliver a clinique rarely leave before ten, thus spending four hours.

No one can read the life of Bichat, of Laennec, of Biclard, and many others that might be mentioned, without being struck with the noble enthusiasm with which they devoted themselves to the cause of medical science; and while the brilliant and rapid ascension of Bichat must fill us with astonishment and admiration, we cannot refuse the tribute of regret, that such talents and zeal should have set so soon. But he lives in the breast of the youthful aspirant to medical renown; and long, long will his name diffuse a talismanic influence over the members of the Parisian school, where, with more truth, might the inscription at Ferney be applied—mon cœur est ici, mon esprit est partout.

Much has been said within the last few years respecting the London and Parisian methods of treating diseases; and a spirit hostile to the best interests of our art has been excited by the illiberal remarks and wanton attacks from both sides the British channel. On the one hand, the French have ridiculed and condemned the English practice in no sparing manner, as violent and dangerous, characterized by an unwarranted use of drastic purgatives—calomel and opium, and a murderous waste of blood by the lancet; while on the other, the French are accused of temporizing with inefficient remedies, contenting themselves with lavements and leeches in the most acute maladies, or unconcernedly leaving their patients to the ravages of disease by their *médecine expectante.*

In reading many of these bitter invectives, it is evident the writers are blinded by the most violent national prejudices—prejudices, though at times partially smothered, that have germinated in ancient dissentions and wars, and which centuries have served only to ripen and perpetuate. In witnessing the effect of their own practice, the idea seems never to have crossed their mind, that the human constitution might possibly be materially different in England and France, requiring agents as different in power to produce the same results. Hence, in my opinion, arise, in some measure, the numerous discrepancies respecting the methodus medendi in the two countries. Compare, for a moment, the mode of living of the common classes in each, for they furnish by far the greatest proportion of subjects of medical treatment. In England, the breakfast is bread and cheese, and a pot of porter. The lunch, bread and cheese, and a pot of porter. The dinner, rich juicy beef, mutton, or bacon, bread, a very few vegetables, and a pot of porter. Supper, cold meat or a chop, bread, and a pot of porter. Add to this diet, a climate comparatively much cooler in summer, and nearly as mild in winter, as a large part of France, which gives a ruddiness and rotundity of person, and a degree of muscular strength and nervous energy, beyond the influence of trifling causes, and only obedient to the most powerful agents.

The Frenchman, on the other hand, breakfasts on a roll of bread, and an apple or cluster of grapes. His lunch is a roll of bread. His dinner, potage, a great variety of vegetables, some meat cooked to rags, bread, and thin weak wine and water. Supper, if any, a roll of bread and a glass of weak wine. And what is the effect of this diet? A constitution possessing much more irritability than physical force, a body rarely overloaded with fat, and great buoyancy of spirits and vivacity. Now, can any one acquainted with the principles of the animal economy, suppose that disease would make the same progress, or require the same means to arrest its course, in temperaments so widely different? Certainly not; and it will be at once conceded, that the inflammation requiring the loss of quarts of blood, and the most active medicaments for its removal, in one case, might yield to the application of leeches, warm baths, and gentle laxatives, in the other. But the fact is, the English and French have long been, and still are, rival nations, in the broadest signification of the phrase; and it is not often that governments, or individuals, so situated, can discern either reason or rectitude in the conduct of each other. The French are an imaginative people, fond of systems and theories; the English are more patient observers of cause and effect. The former are great lovers of the mathematics, and are never satisfied without an explanation of every thing; the latter prefer the languages, and are contented with facts, without troubling themselves so much about the rationale. In France, chemistry, physiology, and pathology, have been brought to the highest pitch of perfection; in England, practical medicine has been placed upon a broader and firmer basis, by established data, and the accumulated experience of ages. To the French we owe numerous discoveries of the real seat and nature of diseases, and the best modes of detecting them, and our materia medica has been greatly enriched by their chemical researches. To the English we are no less indebted, for assigning to these discoveries their real value, as ascertained by calm investigation, and the application of the tests of experience. The Frenchman cannot apply a leech but in conformity to some favourite hypothesis; the Englishman gives large doses of calomel merely because he has repeatedly witnessed their efficacy.

As a solitary example of the enthusiasm with which theories are embraced in the Parisian school, I refer you to the case of the student, published a few years since, who had adopted the opinion that syphilis is not communicable by inoculation, and committed suicide on being convinced, in his own person, that his doctrine was erroneous.

In the treatment of inflammatory diseases generally, the English make most use of the lancet; the French are most partial to leeches. Neither of these modes of abstracting blood, however, is exclusively employed by either, but they appear to be judiciously combined in both countries, though the French are not probably so sensible as the English of the advantage of making a decided impression upon the system at the commencement of the acute phlogoses. The difference may, in a great measure, be satisfactorily explained, by taking into consideration the character imparted to their diseases by the difference of constitution. On the subject of cathartics, we find the English and French at opposite extremes. Since the writings of Dr. Hamilton, the practice of administering active purgatives has been so general, I might say so fashionable, in every variety of complaint, that it is difficult to say whether the labours of that distinguished individual have been productive of most good or most evil. That active purgatives, judiciously employed, may be ranked among the most efficient and most useful of remedial agents, no one can doubt; but that it is injurious to give them on all occasions, repeating them so long as the alvine discharges are vitiated in appearance, as is so much the rage in England, must be equally evident; for this morbid appearance must be occasionally attributed to the derangement of the alimentary apparatus, necessarily resulting from the very repetition of the cathartics themselves. But cross the British channel, and the prejudice against them is carried to the opposite extreme. The French, not contented with proscribing them almost in toto, in the ordinary routine of practice, seldom neglect an opportunity of ridiculing and condemning the English partiality for them.

That the French constitution is not as well calculated to bear drastic purgatives as the English, I am fully convinced; but this seems to me no good reason why they should be universally superseded by lavements and laxatives. By trusting to such mild means, the bowels often remain for a long time in a confined state. While I visited the wards of La Charité, it was not uncommon to hear patients say they had passed four and six days without going to the water-closet, notwithstanding the diurnal administration of a lavement and laxative drinks; and I have known a patient of M. Dupuytren's to pass more than twenty days without a motion of the bowels. He had submitted to an operation for femoral aneurism, was confined to the most rigid diet, consisting entirely of liquids, and was not allowed any opening medicine for fear of hæmorrhage, but took an enema occasionally. On the twenty-first or twenty-second day he was attacked with erysipelas of the head and face. What better could be expected from so long a detention of the biliary and other secretions? Cathartics were now given, and he fortunately recovered.

I believe the remark has been made by many who have dissected much at Paris, that a large proportion of the subjects are brought to the anatomical table with a loaded state of the bowels; and when patients labouring under chronic diseases, and those who had submitted to surgical operations, have apparently done very well for a time on the fluid diet and daily lavement, but all at once have been attacked with loss of appetite, pain of the head, fever, tender abdomen, vomiting, and other symptoms, said to denote une véritable gastro-enterite, and the sufferer has sunk under the application of leeches to the abdomen, warm bath, repeated injections, &c., I have not been able to divest myself of the idea, that all this constitutional disturbance has been often owing to the irritation of morbid secretions accumulated in the bowels, and which a few grains of calomel and Dover's powder would have removed. I have occasionally inquired if there was no danger in allowing the bowels to remain confined day after day, and have been told, that the patients were taking nothing but barley-water and gum arabic, or something similar, while it seemed to be forgotten, that the liver and other secreting organs connected with the alimentary canal might be still performing their several functions, and that their secretions by accumulation, detention, and chemical change, might possibly, like spontaneous combustion, at last kindle a flame in the system, which lavements and leeches would be unable to subdue.

Though, as I have already stated, I am far from thinking that the French require such active or so often repeated cathartics as their neighbours, I have very little doubt, that their physicians, in their anxiety to avoid the English ultra purgation system, and forgetting the sage injunction, in medio tutissimus ibis, not unfrequently neglect cathartics at the expense of the life of their patients. Calomel is a medicine against which the French are very generally prejudiced, and I think not altogether without reason, as it evidently exercises a very unfriendly influence upon their irritable constitutions. A small dose of it often occasions great uneasiness, and few, very few, can bear the large quantities every day given in many diseases, with such marked good effect, both in England and this country. This effect of calomel seems to be a good argument in favour of the opinion I have advanced, that the system of the Frenchman is rendered to a high degree irritable, when compared with that of the Englishman, by the peculiarities of climate, diet, &c. That this valuable remedy is greatly abused in England by a *too* promiscuous use, is admitted by many of the best English writers.

Emetic tartar is considerably employed by many of the Parisian physicians in pneumonia and some other inflammations, as advised by Rasori and Thommasini, and their success seems to prove the correctness of the practice. In England, it is also freely given in the same diseases, but more as an adjuvant than trusted to entirely, to the exclusion of blood-letting and other remedies. Thus far no one can doubt its great utility; but the practitioner, either in England or among us, who could content himself with prescribing emetic tartar alone in acute pneumonia, would be guilty, in my opinion, of more than temerity.

The use of simple and medicated baths, and the application of remedies through the medium of the skin, are better understood in France than in England, or, to say the least, much more systematically and extensively employed. At the hospital of St. Louis, this class of remedies has been brought to an unrivalled pitch of perfection in the treatment of innumerable dermoid affections, under the direction of Alibert and Biett; and here let me remark, the French have been often accused of excessive caution, and even timidity, in advising active medicaments; but the two individuals just mentioned, particularly the latter, must be admitted by every one as exceptions. Nothing like timidity can be laid to the charge of M. Biett; he uses arsenic, muriate of mercury, cantharides, iodine, indeed, most of the powerful medicines, in many of the inveterate cutaneous diseases, with undoubted success.

In the treatment of wounds, the French appear to me to be far behind the English; I mean in their general neglect or dislike to healing them by the first intention. Much, I am aware, may be said for and against the uniform adoption of this plan, even when it is perfectly practicable; but in all simple incised wounds, and those made by operations, the union by the first intention seems to have the weight of evidence in its favour. Nor are individuals wanting in France, who advocate this doctrine, among whom Richerand may be mentioned, though they have incurred the censure of a great number of the profession by so doing. The distinguished physiologist just mentioned, has drawn down upon himself the anathemas of several of his brethren, by his résumé géneral of the present state of surgery, in which he is accused of plucking many laurels from the brows of his compatriots, and placing them upon those of the English. I can mention as a specimen of French treatment after operations, having seen M. Roux, after amputating the thigh of a man greatly exhausted by a previous operation for aneurism, stuff the wound with dry lint, in order to establish suppuration. In a case of this sort, one would have supposed it desirable to save the patient from the irritation and debility necessarily induced by a great discharge of pus. In performing their operations, many of the French surgeons certainly exhibit a great deal of address, which may be attributed not only to the number they perform, but, in a great measure, to the habit of almost constant dissection of the dead body. In the preparatory and after treatment, I must still place them behind the English. Witness the case I have already had occasion to mention, and in the hands, too, of that consummate surgeon, Dupuytren, (for I am not blind to his very exalted talents and acquirements,) where the patient lay more than twenty days with confined bowels; and the proportion of perfect recoveries after extraction of the cataract by M. Roux falls far short of what would be reasonably expected from the great adroitness of the operator, and which I cannot but attribute to the after treatment.

M. Roux is undoubtedly one of the first oculists of the present day. He possesses that acuteness of vision, steadiness and flexibility of hand, and certain mechanical tact, necessary to constitute a first-rate operator; but I hope it will not be considered as detracting from his merit to say, in this place, that I have never seen the extraction of the cataract more satisfactorily performed than by Mr. Tyrrell, of the London Eye Infirmary. It is not merely the manual part of surgery that should engross our attention. The neatest and most skilful operations, particularly upon the eye, may be rendered abortive by improper subsequent treatment. To prevent and remove, in all its grades, inflammation and its consequences, is a matter of the utmost importance, often requiring the greatest professional acumen to decide on the most effectual method.

No one, perhaps, deserves more credit for his exertions to illuminate this subject, than Mr. Guthrie. I am well aware that he has been accused, by several surgeons of undoubted respectability, of using applications of unwarranted activity; but may we not, with propriety, allow something for jealousy, even among the most enlightened? From having had considerable opportunity of treating diseases of this organ, and having witnessed Mr. Guthrie's practice in a vast number of cases, I am thoroughly convinced that most forms of chronic inflammation, and some of the more acute, will yield in much less time to the active plan he adopts, than to a mild temporizing course, though I am far from believing, that a promiscuous use of such applications as the strong solution and ointment of lunar caustic, is judicious.

Lithotomy, with some trifling variations, is performed in nearly the same manner by the majority of English surgeons, though scarcely any two of them make use of exactly the same instruments, some preferring the gorget, and others the knife, of various shapes and dimensions. Among those whom I saw operate, I decidedly give the preference to Mr. Green, of St. Thomas's Hospital. His manner is peculiarly calm and gentle, his language to the patient mild and humane, and nothing seems capable of disturbing the steady firmness of his nerves. He divides the external tegument and muscles in the lateral way, and uses the gorget. He is thus far, I believe, the most successful lithotomist in England, and probably in the world.

The operation performed by Dupuytren is materially different, being a modification of that of Celsus. His first incision is a little curved, crossing the perineum transversely from near the right tuber ischii past the margin of the anus, towards the left. The muscles and membranous part of the urethra are next divided, and the double cutting lithotome, carried along in the groove of the staff into the bladder. The blades are then forced out, and it is withdrawn, thus dividing the bladder from within outward. I cannot conceive that this operation possesses any real advantage over the lateral, and, indeed, am not disposed to regard it in as favourable a point of view. A stone of considerable size may doubtless pass through a wound made in the muscles and external parts, in either way; but I see no necessity for dividing the prostate gland and neck of the bladder, when in a healthy state, bilaterally, as is done by the double-edged gorget, thus detaching the posterior portion, like a flap from the anterior. It may be plausibly argued, that a freer passage is thus made for the stone; but I am contented to oppose facts to theory. No operation, I believe, has ever been so successful as the lateral; of course I see no good reason for being displeased with it. It is surprising how fond surgeons have been, from Celsus down to the present day, of being considered the inventors of new instruments, or of giving their name to some modification of this operation. In Great Britain, as I have before stated, the lateral mode is most generally practised, but with very different instruments. In Paris, at one time three different modes were adopted at the same hospital, (Hôtel Dieu.) The one I have described by Dupuytren; the lateral by Breschet, and the recto-vesical by Sanson. That any one, or all of these methods, may be successful in the hands of the skilful and well educated surgeon, I have little doubt; but no instruments, or manner of operating, can do away the necessity of anatomical knowledge of the parts, and the other requisites of a good operator; and without due attention to the general health and the state of the bladder, and judicious after treatment, no one of them will very often succeed.

In one operation which I saw M. Dupuytren perform, and which made a great deal of noise on account of its melancholy termination, he pursued a different plan. The finger was introduced into the anus, and, guided by it, the sphincter ani and perineum were divided. The urethra was next opened, and the incision of the bladder finished with the double cutting lithotome. Forceps of various dimensions were repeatedly introduced, and after labouring unsuccessfully to extract the stone for nearly an hour, in a manner that humanity must blush to relate, the wretched man was put to bed. On the evening of the third day, the stone was found to have descended, and after enlarging the wound with a bistoury was extracted. Suffice it to say, the man died the following morning. The stone weighed five ounces thirty-six grains. An operation of this sort must have seriously affected the reputation of a surgeon less exalted in the eyes of the world than Dupuytren. Of the instrument of Civiale for grinding down the stone, I will barely remark, that in the hands of that expert operator, it is successfully applied in many cases, and I have no doubt of its utility in moderately sized and friable calculi. When they are large, I am satisfied it can seldom, if ever, be used with advantage, having seen those that had been attacked with it five or six times, and extracted at last in the usual way; and it requires a degree of mechanical tact to use it that all do not possess. It must, of course, be confined to the hands of a few.

The speculum vaginaæ, now so much employed by Lisfranc, appears to me to be highly deserving the attention of the profession, as it enables us to inspect and apply remedies to parts naturally out of sight, and the diseases of which not unfrequently baffle the most skilful efforts. As to his favourite operation of excision of the os uteri, I have seen him perform it several times, and candor compels me to state, that I could discover no disease that might warrant such a step. There was some enlargement of the part which is not uncommon, but which appeared to have no affinity to a scirrhous or cancerous tumour. The females were not old, nor had they the aspect of decidedly bad health. He says that some upon whom he has operated have since borne children. That the operation is attended with no very great risk, is evident from the fact, that Lisfranc has performed it about forty times, and almost uniformly with success; and when cancer actually does exist, confined to the os uteri, there is no doubt it might be resorted to with safety; but few, I believe, will ever have the hardihood to practise it as he has done.

In the removal of tumours, the French are not quite so saving of the skin, particularly about the breast, as the English. They all hold the scalpel in the way the table knife is ordinarily held, which perhaps gives them a firmer grasp of it; but it has not the graceful and scientific air of a knife held as a writing pen or crayon; but this is mere matter of fancy, and has little or nothing to do with the success of an operation. The practice of leaving the wound open till all oozing of blood has ceased, and then bringing the edges together with adhesive straps, has its advocates in both countries. Nothing could be more satisfactory than the rapid union of a wound treated in this way, after the removal of a tumour from the angle of the jaw, which I saw done by Mr. Wardrop with great neatness and address. The patient was put to bed, and remained several hours before the dressings were applied.

The mode adopted for the cure of fractures in France, is, in my opinion, preferable to that of the English; not but that many of the London surgeons treat fractures well; but, taken en masse, they neither exhibit the neatness or skill of the French in their dressings, nor are they so generally successful. To enter upon an examination of the comparative merit of the plans pursued by either, would necessarily carry me beyond the limits of a paper of this kind; but I will barely mention, that in fractures of the lower extremity, the French place the patient on his back, and extend the limb; a position that, I am confident, may be maintained without inconvenience as long as, if not longer, than any other; at the same time, it enables the attendants constantly to ascertain whether the limb be kept at its proper length, which cannot be done with the same accuracy when it is flexed and placed on one side, or on the double inclined plane, recommended by Sir A. Cooper and Mr. C. Bell. The French use long splints, which keep the fractured portions more steadily in apposition, and enable them to make the permanent extension required where the fracture is oblique.

Of the hygienic treatment, I have very little to remark. Though something different in the two countries, it appears to be well adapted to the peculiar constitution of the inhabitants of each. As a people, the French are far more rational, in this respect, than the English. For whenever they feel themselves a little indisposed, they abstain from food, and take nothing but barley-water or some mild tisan for a day or two, and seldom think of medicine till this regimen has been tried. In this way a thousand little deviations from health are remedied in the way nature indicates, while the English fly to the apothecary for the most trifling ailments, who cannot do less than give calomel and jalap, or some other active medicine, which commonly makes way for some half a dozen draughts, anodyne potions, &c; of course, the London doctor soon fills his pockets, while very few of his Parisian neighbours do more than obtain a tolerable support, and seldom make fortunes.

Thus, gentlemen, I have laid before you some of the opinions which I have been enabled to form during my residence abroad. This I have done in as concise a manner as possible; though the subjects upon which I have touched might be easily dilated into a tolerably sized volume. I have drawn my conclusions from actual observation, and am not conscious of having been at all biassed by partiality or prejudice; but, as we are all more or less liable to have prejudices of which we are not conscious, and to draw false inferences from not seeing things in their true light, I ask you to receive my opinions as those of an individual only, to be accredited no farther than corroborated by facts and circumstances.

ART. III.—*An Essay on the nature and treatment of Prolapsus Uteri, with a plate. By* LUKE BARKER, M. D., *Member of the Royal College of Surgeons, London.* (*Read before the Medical and Philosophical Society of New-York.*)

OBSTETRICAL writers have generally been in the habit of dividing this disease of the womb into three stages or degrees: the first stage or degree is called relaxation; a greater degree, prolapsus; and the third procidentia, or a protrusion from the external parts. The first of these distinctions is, in my opinion, unnecessary, if not improper, as from a moment's reflection we shall be led to see, that relaxation is a cause, and not the disease itself; I shall, therefore, in a subsequent part of this paper, consider it under that head. The second and third are terms nearly implying the same thing; the former from prolabor, to slip down; and the latter from procido, to fall down. The complaint, then, will be considered under two stages, and whether the name prolapsus or procidentia is used, is immaterial; we may, for distinction's sake, call the former internal and the latter external prolapsus, or procidentia, upon the same principle as we speak of internal and external hæmorrhoids.

From the peculiar structure and situation of the womb, it is liable to be displaced, or in other words, to fall or slip down; and every variety is met with, from its first descent, to that stage when it projects through the external parts, dragging with it the vagina, and forming a large tumour between the thighs of the woman. This situation of things will naturally cause an alteration of the pelvic and abdominal viscera; in the former, the bladder, instead of being contained in the anterior part of the cavity of the pelvis, falls into the tumour, distorting the urethra, so as to prevent the introduction of the catheter in the usual direction. The rectum, instead of taking its usual course along the concave sacrum, falls into the posterior part of the tumour; whilst the fallopian tubes and ovaria descend with the womb. The small intestines, or some other part of the abdominal contents, will be found to occupy the vacated pelvis, and even, in very severe cases, a part of the prolapsed tumour itself.

The complaint may be years in arriving at this state of things, as it not unfrequently happens, that when the womb has prolapsed, so as to rest on the perineum, a diminution of the symptoms, and a suspension of the disease, take place for some time; this, however, is in general but of short duration, for by and by the parts project externally, producing, as a matter of course, very great inconvenience and distress to the poor patient. When this state is present, the rugæ of the vagina will be obliterated, and more particularly so when the bladder is distended; the skin of the tumour, too, which is the inner membrane of the vagina, after having been exposed some time to the action of the air, loses its florid colour, and becomes like that on other parts of the body.* The vagina loses also its peculiar sexual irritability, and is in a great measure insensible to moderate pressure. The convexity of the abdomen is also somewhat destroyed, owing, as has already been stated, to a displacement of some of its contents, which fall into the cavity of the pelvis as soon as the womb is displaced. When the prolapsus is slight, on introducing the finger into the vagina, we find it very much corrugated, or inverted, and the womb lower than natural, round which we can pass our finger, and easily feel the os tincæ.

Causes of Prolapsus.

Perhaps the most frequent cause of prolapsus uteri, is the too early rising after delivery, particularly in delicate constitutions, and those who have suffered much from frequent abortions and long continued discharges, so as to have produced a previous relaxation in the uterine organs. When we consider that the womb, for some time after delivery, is many times heavier than in the unimpregnated state, we need not wonder why an erect posture should, under previous indisposition, materially favour the descent of the parts; and this too, I conceive, may take place in many cases from its own weight, although the predisposition be wanting.

Menorrhagia, leucorrhoea, and other discharges which produce general weakness of the system, and relaxation of the vagina, and of the ligaments of the womb particularly, may also become frequent causes of the complaint. A cough, under previous indisposition, may be the exciting cause of the disease. A case of this kind is recorded in the 8th volume of the Philadelphia Journal of the Medical and Physical Sciences.

Dysmenorrhoea, fulness of the uterine vessels, a chronic disease, or inflammation of the womb, or whatever produces a determination of blood to the parts, can evidently cause the complaint.

Ergot of rye, as it is now so very improperly used in abortions, both by professional and non-professional practitioners, will be found to be a fruitful cause of prolapsus. A case in point fell under my notice a few weeks ago. A female was threatened with an abortion; it was a little too tedious for the physician, who, to save time to himself and pain to his patient, gave her the baneful remedy, which soon produced its effects, but left the patient from that moment with a bearing down of the womb.

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* A case of external prolapsus, illustrating this fact, came under my care about twelve years ago, presenting exactly the appearance just described.

Falls and contusions, lifting heavy bodies, such as wash-tubs, &c., and long continued exercise in the erect posture, are justly ranked among the causes of prolapsus. Two cases, illustrating these facts, fell under my care a few years ago. One was that of a young lady, who was violently thrown out of a gig, and received considerable concussion about the hips and pelvis. When she had recovered so far as to be able to walk about, it was discovered that a pretty severe form of prolapsus existed, which retarded her recovery for some time. The other was occasioned by lifting a heavy wash-tub; the protrusion of the womb, almost externally, was instantaneous. Both cases completely recovered.

A lacerated perineum is said, by some, to be an exciting cause, but I am inclined to think otherwise; it merely acts as a secondary one, in favouring the descent of the parts when they arrive at the os externum.

No period of life is exempt from the disease, though it occurs most frequently between the ages of 15 and 45, or that period in which women are capable of propagating their species; yet it is by no means uncommon to find it occurring after the cessation of the menses, and even sometimes in childhood. Several cases in advanced life have lately been under my care, and Dr. Monro relates the case of a procidentia in a very young girl; it was preceded by a bloody discharge. Saviard relates a case in childhood; the prolapsed part was mistaken for the male penis. Prolapsus occurs more or less in the early months of pregnancy, and even, sometimes, to such a degree as to be very troblesome; it may also occur during the latter stages of pregnancy, as well as during parturition. A case of the last kind, in a partial degree, once occurred in my practice; and some years since, I had quite a severe case of prolapsus vaginæ, during the latter period of gestation. Burns, in his work on midwifery, states, that prolapsus is sometimes accompanied with stone in the bladder; and as a natural consequence, we should anticipate it, in some cases of polypus, and other large tumours of the uterus.

Symptoms of Prolapsus.

At the commencement the patient complains of a pain in the back, and this, sometimes, lasts for a length of time without any other symptom; but as the disease progresses, a dull heavy pain is felt in the hypogastric region, accompanied with a sense of bearing down, which is increased after exercise. These symptoms in a great measure go off when the patient lies down, though in some cases, particularly during the first stages of the complaint, she will remain very uneasy and restless for some time after. Pain is likewise felt in the groins, extending into the labia, with a fulness of the parts, and an increased discharge of mucus from the vagina. There is pain also often felt in the pubis, together with sharp shooting pains in the hips and thighs, and sometimes spasmodic affections in the legs. The flow of urine, in some cases, is obstructed: although not a constant symptom, yet, when it does occur, the patient is generally annoyed with it until relieved of the complaint. Pain is also felt in the course of the urethra and about the vulva, accompanied with great heat in making water. Pain in the left side, extending from the false ribs to the spine of the ileum, is said, by Dr. Dewees, to have been a leading symptom, in several cases which he has put on record, in the Philadelphia Journal of the Medical and Physical Sciences.

On examination, which ought always to be done in an erect posture, if possible, the uterus is found lower than natural, the vagina is corrugated, and sometimes swelled and thickened, forming a circular protrusion at the vulva. If the examination be conducted in a horizontal position, we are apt to be deceived both as to the nature and extent of the disease.

From sympathy, the stomach is generally affected; the appetite is irregular, or totally lost; the bowels, too, lose their tone; the spirits are very much depressed; employment becomes both irksome and difficult; and life itself, in the language of the worn-out patient, is scarcely desirable.

The vaginal discharge varies in quantity; in some cases it will be but trifling, while in others very great; it, however, generally increases as the prolapsus progresses, until this becomes external; when, after a short time, it considerably diminishes, or ceases altogether. In debilitated habits, menorrhagia is not unfrequently troublesome; occasioned no doubt by weakness of the system, and laxity of the uterine vessels; which last permit blood, as well as the impaired menstrual fluid, to flow in too great a quantity.

When prolapsus is external, the surface of the tumour, which is the membrane of the vagina, soon becomes hard and dry, and ceases to secrete mucus,—although it did so, in considerable quantity, while it was within; this circumstance accounts for the remarkable fact, that a patient labouring under external prolapsus, is actually stronger than when the disease had not so far advanced. The tumour is subject to deep seated pains, inflammation, and ulceration. The friction, to which it is exposed, the irritation from the urine, and very often a severe tenesmus, tend, no doubt, directly to produce these symptoms, and to increase the sufferings of the poor patient.

Treatment.

The treatment of prolapsus, like that of most other diseases, must be conducted on general principles, adapted to the variety of constitutions and habits of our patients. In the first place, our attention will be required to remove the cause as far as practicable, then, to attempt a reparation of the general health, if it has at all suffered; and afterwards, to make use of some mechanical support to keep the parts in their proper situation. But, before speaking specifically of the treatment, I would beg to make one remark, viz. that rest, and generally in a recumbent position, is absolutely necessary in every species of prolapsus, except in those cases which arise from, or are kept up by, weakness and relaxation.

Suppose, then, a case occurs, during confinement, either after a natural or premature labour; we must, in the first place, insist on a *horizontal* position. If there are inflammatory symptoms present, which is sometimes the case, they ought to be removed as quickly as possible; and for this purpose, bleeding, general or local, according to the exigencies of the case and the peculiar situation of the patient, will be necessary. Cooling laxatives, both by the mouth, and per anum, together with such other means as are calculated to subdue inflammation in general, must be resorted to. If the pain and irritation of the womb are considerable, injections of tepid gruel, barley water, or flaxseed tea, with or without laudanum, according to circumstances, will be found very soothing and comfortable to the patient. The quantity thrown up at once ought never to be less than what the vagina is capable of containing; and, as it is desirable to retain it as long as possible, the patient must lie in a situation favourable for that purpose.

When the inflammatory affections have subsided, the course of treatment must be reversed; the diet may be light and nourishing; of such quality and quantity as has been known to agree best with her former habits. Tonics, such as quinine, gentian, serpentaria, &c., may be used with great advantage; they may be conjoined with gentle laxatives, to regulate the state of the bowels. Injections, consisting of some of the metallic salts, such as sulph. zinci, superacet. plumbi, sulph. ferri, alumen, aqua cis, &c., or decoct. querci, vel gallarum, &c. will be found highly serviceable. They may be used three times a day, and in quantity of not less than two or three ounces at a time. The syringes in common use for females are altogether useless, with the exception of that of Clark's. A more simple instrument, and one which I have for several years always recommended to patients, is an elastic gum bag, capable of holding about four ounces, attached to a pewter pipe of four or five inches in length, and of the circumference of a common clyster pipe, the end being slightly bulbed and perforated with four or five small holes.*

Combined with the above tonic plan, the patient must wear a broad bandage over the abdomen. It ought to be tightest at the bottom, in order that the cavity of the pelvis may be relieved as much as possible from the pressure of the intestines. The adjustment of a suitable bandage is of the utmost importance; so much so, that we shall frequently find the best directed efforts fail when this is neglected.

Persevering in these means, there are very few cases of prolapsus, following parturition, which will not be effectually relieved in a short time; if, however, the complaint should continue, we must make use of some mechanical contrivance, in order to support the parts in their natural situation. For this important purpose, the pessary hereafter to be described will, perhaps, answer better than any other in use.

Seeing, then, that the too early rising after delivery is a frequent cause of the complaint, it is certainly of great importance that the obstetrical practitioner, in every instance where the least predisposition exists in the constitution of his patient, should insist on a stricter and longer confinement than usual, so that the uterus may get reduced to its natural size before much exercise is allowed; by this simple precaution, I am confident, many cases of prolapsus might be prevented.

Secondly. When the disease arises from leucorrhoea, and other weakening discharges, together with a predisposed habit of body, we shall find the complaint, under these circumstances, of all others, most difficult of cure. As these symptoms, generally, arise from or depend on some derangement of the stomach and bowels, or on some deficiency of the secretions, and, most probably, that of the bile; the treatment ought to be commenced with such medicines, diet, and exercise, as will have a tendency to restore the general health of the patient; while, at the same time, we must be particular to correct the morbid secretions of the parts.

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* These Instruments are sold by Patrick Dickie, Druggist, &c., 443 Broadway.

Of the medicines, I have found that alterative doses of mercury, every night, or every other night, and bitters combined with laxatives, in the form of watery infusion, taken twice or three times a-day, have produced the best effects; indeed the amendment I have witnessed from a perseverance in these remedies, is truly astonishing, far surpassing any thing which could have been anticipated, or expected from the usual course of bark and wine.

The diet ought to be light and nourishing, adapted to the state and powers of digestion at the time; for, to burden a debilitated stomach with strong, indigestible food, would only have a tendency to increase its weakness, and thereby aggravate every evil under which the patient laboured. It is more agreeable to sound reason, to let the food consist of such materials, and be in such quantities only, as will sit easy; and should even less be taken than could be digested, instead of retarding, it would promote the recovery of the patient, as the stomach would sooner be restored to a healthy action.

When any part of the body is weakened or relaxed, it appears necessary that the individual should take exercise of some kind, proportioned to the age, situation in life, and peculiar circumstances of the patient. Although rest in a horizontal position has been strictly enjoined in the preceding pages, it is to be understood in reference chiefly to those cases where an inflammatory action exists in the parts; but, when the complaint arises from weakness and relaxation, I am pretty certain that confinement would only have a tendency to increase the disposition to the disease. The patient ought, therefore, to take exercise, proportioned to her age, strength, and state of body; e. g., walking, riding, sailing, or any other kind of exertion which does not fatigue too much, will be proper.

As the discharge from the vagina is, generally, pretty profuse, it will particularly claim our attention. Cold injections, of a solution of some of the metallic salts, or a decoction of oak bark, &c., may be used with very great advantage; for, besides their effect in suppressing the discharge, they have a happy tendency to contract and impart tone to the parts. Cold bathing may, also, upon the same principle, be used, and ought seldom to be omitted, except when the symptoms, or the severity of the weather, render it improper. In the winter season, sponging the back, hips, and thighs, with cold water, or salt and water, may be used as a substitute.

The abdominal bandage is of greater importance in this species of prolapsus, than in any other; for, as we have already seen that the disease arises from, or depends, in a great measure, on relaxation of the pelvic viscera; therefore, too much care cannot be taken in its application, in order to preserve that cavity from the weight of the organs above.

When the predisposing and exciting causes have been removed, and the discharge, in some measure, corrected; unless an immediate amendment follows, the pessary ought to be used; and, if persevered with, in conjunction with the above means, the majority of cases of prolapsus will be cured, and the rest very materially relieved.

Thirdly. In those cases which have arisen from too great an afflux of blood to the parts, such as in chronic inflammation of the womb, &c., our first step will be to subdue that action by the use of proper depleting remedies; and here it may be necessary to observe, that when general bleeding is thought inadmissible, leeches, in sufficient number, applied to the ostium vaginæ, will have a most happy effect. After the cause or causes have been removed, the general course of treatment as before pointed out, must be pursued, varying it, however, from time to time, as circumstances require.

Fourthly. When prolapsus is induced from a fall or contusion, &c., particular attention must be paid to the local injury; the same as if it had been received in any other important part of the body; and it is very probable, that by the time the patient has recovered from the effects of the accident, the prolapsus will be greatly mitigated. Should that not be the case, it will be proper to make use of astringent and other tonic remedies, as before advised, together with a more immediate support of the parts, by the use of the pessary. I would just remark, that prolapsus occasioned by external injury, is much more likely to be permanently cured, than from any other cause.

Lastly. In the treatment of external prolapsus, our attention will naturally be directed, in the first place, to examine the state of the bladder and rectum; and afterwards to the tumour itself, to ascertain whether it is in a fit state for reduction. For, should there be much inflammation, or perhaps ulceration, it would be improper to attempt it, until such disease is somewhat corrected, by the use of proper remedies; such as bleeding, laxatives, fomentations, opiates, &c. If adhesion should have taken place to any extent, between the tumour and the surrounding parts, all attempts to replace the prolapsus would be improper; for, in such a case, we should have to content ourselves with a palliative mode of treatment. But, supposing the prolapsus be in a fit state for reduction, the operation ought immediately to be attempted; and, if successful, the womb must be kept in its place with the assistance of a large pessary. The patient should afterwards be confined some days to her bed, or at least until such time as the irritation has ceased; after which, the case may be treated agreeably to the foregoing principles.

The instrument which has been alluded to for supporting a prolapsus of the womb, and the one which I have had the honour to introduce into practice, is of a globular shape. A bag of elastic gum, of a suitable size, is secured perfectly air tight to a tube of ivory and silver; the tube contains a valvular mechanism, capable of retaining such quantity of air as may be introduced into the bag, which is done by means of other tubes and a large elastic bottle; so that the pessary may, with the greatest ease, be either inflated or exhausted after it is introduced into the vagina. By a reference to the plate and explanation, a better idea of its principle may be gathered, than from any other description.

The advantages of a globular pessary have been universally admitted, particularly for protracted cases; but the chief objection to their more general adoption has been, I believe, owing to the pain and difficulty always experienced on their being introduced. This difficulty is now happily obviated; inasmuch as the inflation and exhaustion are always performed while in the vagina; besides, one of large dimensions is just as easily applied as a smaller one. Another, and what will be esteemed a great advantage, over all other instruments for a like purpose, is, that the patient, from a few words of instruction, can learn to introduce and withdraw it herself, and that too without one particle of pain.

It is necessary, in the use of this, and other globular pessaries, to remove them during menstruation; but some advantage would be derived from doing it oftener; say once a week. This would afford an opportunity to make use of astringent injections, so essentially necessary in restraining the discharge, which oftentimes is troublesome; as well as for the purpose of causing the relaxed parts to contract; so that the size of the instrument might be diminished from time to time, till at last it could be dispensed with altogether.

EXPLANATION OF THE PLATE.

Fig. 1. The pessary.

Fig. 2. A brass tube, (*a*) screws into the opening of the pessary, as is represented at (*h*) fig. 5, to push back the valve, fig. 6, for the admission of air into the bag; (*b*) a stop-cock.

Fig. 3. A bent tube, to be connected with fig. 2 at (*c*), and fig. 4 at (*e*); each end fits perfectly air tight.

Fig. 4. The inflating bag, (*d*) the stop-cock, (*e*) to receive the end of fig. 3.

Fig. 5. A section of the pessary tube. It is about 1-2 an inch in diameter, and 1-2 long; the silver end (*f*) screws on to the ivory tube (*g*) at (*m*); (*h*) the opening to receive the end (*a*) of fig. 2; (*i*) is intended to represent a thin layer of cork within the silver end or cap: the valve acting against it, renders the instrument completely air tight; (*k*) shows the bore of the tube, which is about 1-4 of an inch in diameter—it contains the valve and spring; (*l*) represents the opposite end, with several small perforations in it.

Fig. 6. The valve, which is made of ivory.

Fig. 7. The spiral spring, of silver wire.

Directions for its Application.

Take the brass tube, fig. 2, and screw it into the pessary, to open the valve; then expel the air by grasping the bag, and if the stop be turned, the bag will remain flaccid. In this state, the instrument is to be introduced into the vagina; when this is done, re-turn the stop, and connect the inflating bag to the tube already in the pessary, by means of the bent one, fig. 3. The pessary can now be easily inflated by grasping the large bag, and while in the act of doing so, before the hand is removed, turn the stop of fig. 2, to prevent the escape of the air. The tubes, then, may be separately taken away, and the pessary will be left behind filled with air. To withdraw it, the tube may be applied, as before, to push back the valve, and this is generally sufficient to allow of the instrument's being easily withdrawn; but, should any difficulty arise, the inflating bag may be connected, having the air previously expelled, and in a moment the pessary will be exhausted, when its removal can, without pain, be accomplished.

ART. IV.—*Observations on Emetics.* *By* H. T. JUDSON, M. D., *of New-York.*

IN the animal economy, the stomach is an organ of the first importance. Those functions by which man is enabled to preserve his individual existence, are commenced in this viscus.

Digestion, the first in the series of assimilating functions, here begins. On this organ the impressions of many diseases are primarily made, and to it are our remedies chiefly applied.— The peculiar action of the stomach, of which in a remedial point of view we propose to treat, is excited by a class of medicines bearing the name of emetics. The effects of this class of medicinal agents are so extensive, and their benefits so interesting, that we shall be justified in contemplating them with some degree of minuteness.

The modus operandi of emetics has engaged the attention, and elicited the genius of distinguished medical men so frequently, that scarcely a conjecture can be offered, or an opinion hazarded, which has not been anticipated. Some have regarded them as stimulants, while others have thought they diminished excitement. No one has satisfactorily explained the inversion of the usual action of the stomach; nor perhaps is this a matter of much importance. Facts are of more value than speculations. Though we cannot fully understand this process, it is no more obscure than the pathology of many diseases. We should be content to advance by slow degrees towards the height of our physiological and pathological investigations, and to practise according to the light we possess, and the information we enjoy.

Emesis is produced not only by medicines of a specific nature, but by several modes of gestation, such as sailing, swinging, and even riding. An association of ideas often gives rise to vomiting. These causes probably first act upon the brain, and especially, if we may credit Phrenology, by an affection of the organ of weight inducing dizziness and vertigo, and eversion of the stomach by sympathy. This is as plausible a solu tion as any I remember to have seen. The inversion, in what manner soever produced, extends to the duodenum, and sometimes to the lower portions of the small intestines. The contents of the glall-bladder and biliary ducts are often evacuated, and thus emetics promote the secretion of the bile, and assist in its discharge.

The stomach is the seat or centre of many and powerful sympathies. I have long believed that sympathy of distant parts may be traced by the nerves, though this has been denied by some of the most strenuous advocates of the doctrines of sympathetic action; and since the discoveries of Mr. Charles Bell, M. Magendie, and others, in this interesting part of anatomy, light has arisen in obscurity, and what before was reasonable conjecture, is now become demonstrable certainty.

The stomach is in sympathy—first with the brain. The intimate connexion between the head and this organ is perceived cal_ in the pain of the former consequent to disease in the latter. It is likewise manifest in the harmony between the due and regular performance of the functions of the stomach, and cheerfulness and serenity of mind. The association is also apparent in the effects of diffusible stimuli, and of narcotics, taken into the stomach, on the intellectual faculties. Many diseases, which are commonly referred to the brain as primary affections of it, originate in the stomach, or at least are intimately connected with it. Those which are called *nervous*, have their seat in the alimentary canal, or in the ganglia of the nerves which supply these parts.

Secondly—the stomach sympathizes with the viscera of the thorax. It is well known that many coughs and apparent affections of the lungs and bronchiæ arise from the state of the stomach and collateral viscera; and are best removed by remedies directed to those parts which are not supposed to exert any specific action on the thoracic viscera. The pulsations of the heart and arterial system generally are sensibly affected by the condition of the stomach. Nausea diminishes these pulsations both in frequency and force. Excitation of the stomach exalts them. Witness also the operation of digitalis, prussic acid, and other narcotic substances, on the heart.

Thirdly—with the neighbouring abdominal viscera. The sympathy between all the viscera of the abdomen, is too obvious to require any detail. The great sympathetic nerve with its numerous ganglia, may be regarded as the bond of union and of harmony between all the assimilating functions. The gastro-pulmonary mucous membrane is associated in all its physiological operations in health; and therefore in disease we may expect to find its pathological sympathies no less obvious. This system of nerves, together with the par-vagum, pervades all its ramifications.

Fourthly—with the contents of the male and female pelvis. The diseases of these organs affect the appetite, and the medicines employed to relieve or cure them, first act on the stomach.

Fifthly—with the capillary vessels and nerves of the skin. There is a close connexion between the state of perspiration and the healthy performance of the digestive functions. Diaphoresis is excited by medicinal substances of a certain kind received into the stomach, and cutaneous refrigeration follows the exhibition of other articles.

Sixthly—the stomach is in sympathy with the absorbent vessels, and with the exhalent arteries. Emetics promote absorption. The veins also are stimulated by stimulating the stomach. Their action is also altered by nausea.

Seventhly, and lastly—we may say, that the stomach is associated directly or remotely, with every part of the system, and vice versa. It seems to be the centre of organic motion, or, as Professor Chapman styles it, "the throne of the vital principle." Enough, at any rate, has been adduced to prove the assertion with which we commenced—namely, that it is an organ of the first importance in the animal organization.

Having indulged in the preliminary view of the sympathetic connexions of the stomach, we now return to the subject of emetics, and premise the remark, that much difference may be observed with respect to the comparative ease and facility with which persons of varied constitutions discharge the contents of the stomach. Emetics differ in kind, and each seems to possess properties peculiar to itself. Thus different indications may be fulfilled by a choice of articles. Some discrimination is requisite. Where a poison has been swallowed, and the speedy discharge of it is required, sulphas zinci, or sulphas cupri, would be chosen; whereas if we wished merely to evacuate the usual contents of the stomach, tartarized antimony or ipecacuanha would be sufficiently active.

From the direct, powerful, and extensive sympathy of the stomach with all parts of the system, we perceive that the use of emetics must be nearly commensurate with the extent of disease itself, at least in many of its forms or modifications. There is a difficulty, however, in designating the diseases in which emesis may prove useful, arising from this circumstance, namely, the treatment of them must vary as their symptoms vary. By no means do I wish to be understood as undervaluing other medicines, because I do not dwell upon or even mention them. Disease may undoubtedly be combated by various and diverse weapons, both offensive and defensive. I intend, however, to confine myself to emetics at the present time, and to notice other methods of warfare only incidentally.

When any noxious matter has been received into the stomach, an emetic is the most convenient means of discharging it, and should never be delayed. If the stomach-pump is at hand, a skilful use of that also will co-operate. Perhaps the act of vomiting is also useful, independently of the mere evacuation. Some narcotic substances are removed with difficulty; still the attempt should be persevered in, and at all events the operation cannot do harm. It has been suggested by some ingenious authors, and the opinion is very plausible, that infectious and pestilential fevers first originate in the stomach; and vomiting has been proposed as a palpable means of disturbing and even of destroying morbid action there, previously to the system becoming sympathetically affected. Whether the practice has ever been successful is more than I know. It is doubtful whether specific diseases, such as typhus, can be so arrested. The late Professor N. Smith thought they could not. Much diversity of opinion remains on this subject, as well as on the contagious nature of that and of other fevers. For my own part, I have no reason to suppose that typhus is a mere state of fever, as is thought by some; nor have I seen active treatment avail in that disease. I cannot persuade myself to pass from this subject, without a tribute of respect to that great man. As his treatment of typhus fever was so inert, an impression has arisen in the minds of some, that such was his general practice. On the contrary, his prescriptions in other diseases were bold, energetic, and mostly original. His were the eagle-eye, the comprehensive genius, the profound judgment, the benevolent heart.

When speaking of the sympathies of the stomach with the brain, I remarked that some of those diseases, which usually are attributed to the latter organ, as idiopathic affections of it, were closely connected with the former, and oftentimes dependent upon it. I referred more particularly to mania and apoplexy. This is no new opinion; and the last-mentioned disease is known to be caused by improper food, indigestible suppers, especially milk, and other ingesta, which must necessarily act on the stomach previously to the apoplectic symptoms. While, however, this is true, it appears highly probable that there is a peculiar predisposition in the brain itself to this disease. In mania, likewise, the brain or its membranes are disordered. The immortal soul is never deranged. The material organ is in fault. An inflammatory or nervous action, essentially different from that of healthy excitement, is induced. Nevertheless, there is a connexion between this morbid action or state and the abdominal viscera. To the stomach our remedies must be chiefly directed. Vomiting, either spontaneous or excited by emetics, has proved useful in both complaints.

In nervous and sick headaches, and in painful affections of the nerves of the face, in neuralgia and wandering pains of uncertain character, in disorder of the functions of the great ganglionic nerve, and of the par-vagum, emesis is frequently our only reliance, and seldom will our confidence in it be misplaced. Tooth-ache, when it is not advisable to extract the tooth, is often relieved by the operation of vomiting. Repeatedly have I seen it useful in such cases. Such local distress many times depends upon irritation in the primæ viæ; and if locally removed, some other part suffers in its turn.

There is an intimate dependence between the stomach and the organ of vision. Ophthalmia is benefited by emetics, and amaurosis is relieved, if relieved at all, by puking and alterative medicine. This is recommended by Chapman, Good, and Abernethy. A sudden restoration to sight has followed and even accompanied the emetic operation. Weakness of sight sometimes arises from undue and improper excitement of the genital organs. If the medical adviser is not apprized of this circumstance, he will prescribe to no purpose.

In asthma, an emetic is serviceable, and if taken in the evening, will prevent, in many cases, an attack during the night.

After the lancet, emetics should be exhibited, and form part of the antiphlogistic treatment in pneumonia. Particularly are they beneficial in that form of thoracic inflammation called pneumonia-notha. Just as effusion into the cells of the bronchiæ is expected to occur, recognised by the respiration becoming very much impeded, the pulse soft and flowing, and an abatement of the inflammatory symptoms, a medicine is required to act as an emetic; a deobstruent, and an expectorant. Such a medicine we possess in sanguinaria canadensis. Its administration is matter of importance.

In phthisis pulmonalis, a course of vomits is often of very evident utility. Would not a persevering use of emetics, accompanied with blisters, do as much towards overcoming this formidable destroyer, as any plan of treatment; and in pursuing it would we not give the patient his chance for life? Tartarized antimony may be administered, either in full doses to excite active vomiting, or in smaller portions to keep up a constant nausea. This, it must be confessed, would be a distressing plan of treatment, but we should recollect we are here contending with an obstinate, as well as an insidious enemy, that will not be dislodged by pectoral emulsions or cough drops! I am aware that a difference of opinion prevails respecting this disease and its proper treatment. Depletion and tonics, full diet and abstinence, have their respective votaries. Judgment, as in other cases, should be exercised. Exclusives are seldom unprejudiced. The practitioner is frequently required to lay aside all bias, and to part with many preconceived opinions; and he is a wise man who is not ashamed to confess his errors and to reform his practice.

The croup demands emetics in large doses. Tartarized antimony acts more on the mucous membrane than other articles of this class, and should, therefore, be selected in this disease. We ought to give two, three, or six grains, according to the age of the patient, and the urgency of the symptoms. Here we design, if possible, to destroy diseased action at a blow, and we should remember a small dose will not accomplish this design. A small dose is useless. It is an unfortunate circumstance when a cathartic has been administered previously to an emetic, for it will sometimes prevent its due operation. Afterwards give seneka-snakeroot and calomel, and other remedies.

Catarrh, and other functional disorders of the mucous membrane, should be treated, in their forming stage and in their decline by emetics. Most of the disorders of the respiratory system, are benefited by the same remedy.

At the commencement of fevers, emetics should be employed, and during their progress, and even in convalescence, their use, though less obviously demanded, is no less beneficial. Emetics sometimes, we are assured, destroy intermittent fevers at their onset, or if not so successful, prepare the system for the exhibition of tonics. Remittent fever, especially if attended with derangement of the biliary apparatus, requires active vomiting. Every case of typhus does not call for emetic medicine, but some cases do, and then ipecacuanha is the best. Tartarized antimony produces too much prostration. In the disease which prevailed in our city in 1822, and which was denominated yellow fever, I used emetics with signal advantage, nor did I see any evil result from their administration. I am far, however, from recommending their indiscriminate employment in the yellow fever. It seems to require different treatment, as it prevails in different places and at different times.

Gout originates in the stomach, and is much of a gastric disease. Were it allowable to speculate, I should say emetics would occasionally be of service.

As for rheumatism, I fear they would have to retire from the combat. They are sometimes good preparatives for other remedies. Nothing equals a combination of calomel and opium, or Dover's powder, in this painful and vexatious complaint.

In eruptive diseases, emetics are peculiarly important, and their beneficial operation is clearly ascertained and well understood. In rosalia, or scarlet fever, their use is no less clearly indicated. In one case during the past winter, I gave ipecacuanha, and needed no other medicine. Aphtha, and the various eruptions of children and of adults, require the usual attention to the first passages.

Nausea has a tendency to lessen the force of arterial excitement; hence the utility of nauseating doses of emetic drugs in hæmorrhages. Vomiting, perhaps, in certain cases, would be of advantage, though not proper in all. I have used ipecacuanha in epistaxis and in hæmetemesis, with success. Hæmorrhage may depend upon some discrepance between the action of the veins and arteries, and in this case emesis would restore the balance. Warmth, a recumbent posture, and opium, will sometimes succeed, when cold and antiphlogistic means fail: nervous energy is deficient. This fact is worthy of observation. I doubt whether a rupture of a blood-vessel takes place as frequently as is supposed.

Respecting dropsies, it is probable that nearly every case of anasarca and of ascites, proceeds from an unhealthy state of some of the viscera of the abdomen. Our remedies act on those organs. Emetics, Professor Caldwell tells us, oftentimes relieve in hydrothorax. Other authors, however, look upon this as rather too venturesome practice. When it does not depend upon organic disease of the heart or arteries, it may be allowable to prescribe emetics; but in such cases their employment would be hazardous in the extreme. They may be administered in anasarca and ascites with more confidence. A speedy discharge of serous fluid has been known to follow their exhibition. The same remark is true of local dropsies, indolent tumours, &c. After a fair trial in other cases, they certainly have failed.

Sometimes, emetics do good in dyspepsia and in hypochondriasis, while at other times and in other states of the stomach, they are rather injurious than beneficial. I am unable to point out what are the peculiar circumstances and symptoms which require their operation. Dysentery, in all probability, involves the stomach in the intestinal irritation or inflammation of which it consists; and, if this be true, we see how mild emetics prove beneficial at its commencement. Calomel in large doses is useful. Last season, I had a case of dysentery that resisted all medical interference, and finally recovered spontaneously. The patient is now well.

In cholera, emetics are required, and in obstinate diarrhœa likewise. In colic and constipation of the bowels, they are our best resort. After their operation, if calomel and other cathartics fail, the tincture of gum guaiacum with laudanum, will often succeed. The intestinal tube becomes somewhat paralyzed, and its muscles want stimulating. When this is the case, ordinary purgatives disappoint us.

A full dose of the above-mentioned tincture will sometimes arrest cholera morbus at the outset. In jaundice, during the passage of biliary or renal calculi, emetics should not be neglected. They frequently give speedy relief.

Introsusception of the intestines is a disease almost intractable, nor is it always treated in the most reasonable or scientific manner. The symptoms of it, when it occurs in the small intestines, are constant vomiting, great irritation, prostration of strength, pain of the abdomen, coldness of the extremities, wandering motion of the hands, great distress. In the large intestines, the symptoms are less urgent, the distress is lower down, and sometimes the volvulus can be felt by the finger, and reduced. Cathartics should be avoided. How can they fail to aggravate the complaint? Emesis has been proposed with the design of inverting the peristaltic motion of the bowels, and in this manner to withdraw the introsuscepted portion. I think it better to avoid all irritation, give laudanum, and, perhaps, use copious injections of tepid water. I have dwelt so long upon this distressing disease, because it is not much noticed in elementary or systematic books. It is often difficult to distinguish it from acute hydrocephalus. It not unfrequently occurs in infancy.

Convulsions, especially those which occur in infancy, and those which depend upon improper food, or a disordered state of the primæ viæ, are speedily and effectually relieved by vomiting, the warm bath, and injections. The whole class of nervous diseases require attention to the stomach and bowels. Hysteria is alleviated by active vomiting. Hooping cough, in common with other convulsive affections, and diseases of the mucous membranes, is relieved by emesis. The employment of emetics in epilepsy, is recommended by some and condemned by other practitioners. Dr. Ives, Professor of the Theory and Practice of Physic in Yale College, relies chiefly on stramonium in epilepsy, while Dr. Chapman speaks more favorably of emetics. In amenorrhea, and other derangements of the uterine functions, the use of emetics is worthy of regard. Even in the last stages of pregnancy, emesis is not always prohibited, though it must be confessed, it is not commonly recommended, and may be somewhat hazardous. Nevertheless, judicious practitioners have assured the present writer, that, when symptoms warranted, they have ventured upon their exhibition, and that, after their operation, their patients have had safe, speedy, and happy deliveries.

During convalescence from acute and febrile diseases, our patients many times have more appetite than discretion, and from this cause, when they have advanced a certain way towards the attainment of health, they stop and even retrograde. Here an emetic will remove obstructions to their passage, and afford them a benevolent furtherance on their journey. This I have seen exemplified in numerous instances. Indeed, I believe I should have lost a valued patient, who had imprudently and unadvisedly taken too much and improper food, had I not been at hand, and given her a full dose of ipecacuanha. She had sunk into a comatose state, and was approaching the bourn of life. The relief was immediate and very apparent.

While emetics are thus extensively useful, there are undoubtedly many cases in which they would be hurtful and dangerous. In some organic affections and malconformations, in aneurisms of the large arteries, in great determination of blood to the head, in violent inflammation of the viscera of the thorax or abdomen, and, perhaps, in some other circumstances, such as hernia, fractures, &c., they should be studiously avoided. If taken during the flow of the catemenia, they will either suppress the discharge, or render it very profuse. Inquiry, therefore, should always be made before their administration. Debility may possibly forbid their employment, though I apprehend this will seldom be the case. "Emetics do not cure gastro-enteritis, excepting by the revulsion and the critical evacuations they induce; their effect is, therefore, uncertain in slight cases; and in severe ones, they are always dangerous, because they never fail to aggravate, when they do not succeed in subduing it." So says M. Broussais. If fever depend upon gastro-enteritis, as he affirms it does, facts are certainly against his theory, for emetics often give relief merely by exciting a new action, independently of the evacuation they occasion, and without causing a crisis. If fever is necessarily connected with local inflammation, that inflammation is essentially and specifically different from phlegmon. In pure gastro-enteritis, emetics are improper.

Although it is proper to endeavor to discharge foreign substances of a deleterious nature from the stomach, the rule is not general. I once saw a female, who in a paroxysm of insanity, swallowed a large pair of scissors. She soon became emphysematous. The collection of air passed upwards on the right side at first, and in that state she came into the presence of her friends. One half of her face was now distended, and particularly the integuments of the eye. She told the cause. Rapidly the emphysema extended over all the body, and she died from suffocation. On dissection, the scissors were found with their handles in the upper orifice of the stomach, and their points passing through the æsophagus into the lungs. She had previously swallowed a large key with impunity.

With regard to the manner of giving emetics, they should be given in solution, either in one draught or more. In catarrh, fever, &c., the evening is the preferable time for their exhibition, because puking disposes to sleep, and determines to the surface, which are desirable effects. In intermittents, they should be taken some time before the expected cold stage. The patient should avoid, in all cases, checking perspiration, or, perhaps, it will be well to confine him to bed. Should we wish to stop vomiting, and allay the irritation of the stomach, it may be necessary to premise an emetic of ipecacuanha, and follow its operation with some aromatic or cordial. Laudanum will sometimes answer this purpose. Carbonic acid gas, taken into the stomach, will diminish nausea. We may likewise employ the warm bath, apply external irritants to the region of the stomach and extremities, and stimulate the intestines.

Emetics do not seem to impair the appetite, or diminish the digestive powers; these are frequently strong and vigorous after emesis. The frequent repetition of them has been said to render the stomach liable to have its contents expelled by trivial causes, but I have witnessed no effect of the kind.

I have endeavored to point out some of the abnormal states of the system in which emetic medicines are beneficial, and to present some views of their method of operating. On a review of the subject, we perceive that they are extensively useful in the cure or alleviation of disease. Perhaps they are too much neglected at the present time; and thinking this to be the case, I have purposed rather to remind the practitioner, and to convey practical information to the student of medicine, then to record much novelty, or adduce striking illustration. There are continual innovations in science, particularly in medical science, some of which are manifest improvements, while others are more problematical in their tendency. We are no enemies to the spirit of investigation, no opposers of the progress of true knowledge. Nor are we disposed to inquire, "What is the reason the former times were better than these?" We do not believe they were. On the contrary, when we consider the advancement of chemistry, the better knowledge of anatomy, the increasing light of physiology, the zealous cultivation of pathology, with all those aids which freedom of thought gives to the discovery of truth, we are fully persuaded that the study of medicine has rapidly improved, and is destined to receive still farther additions of light and of knowledge, in principle and practice. It is not in theoretical speculation merely, that our science has advanced. Were we to compare the crude and cumbersome formularies of former ages, with the neat, the scientific, the simple prescriptions of modern practice, we are sure that men of judgment and of candor, both in and out of the profession, would pronounce a verdict in favor of our own times. While we value ancient medical writers for their accurate observation and careful collection of facts, we admire contemporary authors for their patient investigations and simplified practice. We can render the tribute of praise to the worthies of antiquity, without worshipping at their shrines, or reverencing their relics. Nor do we approve of those who appear desirous to retard rather than to advance the honor and dignity of our profession. "He most of all," says Mr. John Bell, "may be pardoned an overweening love of his profession, who daily sees it a source of relief from pain, from danger, and from death inevitable, but for his interposition;" to which I will add, he who enlarges the bounds of knowledge, confers a lasting benefit upon his species, promotes his own happiness, and ensures his own reputation.

ART. V.—*Meteorological Report, from April 1st,* 1829, *to July 1st,* 1830. *Submitted to the Medical Society of the City and County of New-York. By* JOHN BAXTER, M. D., *Chairman of the Meteorological Committee.*

THE science of the phenomena of atmospherical changes, notwithstanding those changes are such as are appreciable by our senses, is nevertheless approximated the least to certainty than any other; and this more from want of observation probably, than from want of the means of ascertaining them.

The changes that occur in our climate are frequent, sudden, and numerous; their pathological influence cannot, therefore, be small, although habit has hardened us against them to a considerable degree.

The changes that are appreciable, may be considered as of five kinds, viz.: The alterations of atmospherical pressure indicated by the barometer; those of temperature, measured by the thermometer; those which take place in the agitations of the atmosphere; those produced by different quantities of moisture; and those by different quantities of electric fluid. The whole of which phenomena, attributable to change of place, and new combinations of matter, are of immense importance to man in his healthy and diseased state.

The fact that the pressure, as evinced by the observations with the barometer, is never the same for 24 hours at a time in our climate, is one of no small importance.*

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* It is established as a principle by Daniels—"That the equal height of the barometer, in every situation upon the surface of the sphere, was de-

It has been observed that the constant operation of heat at the equator produced an almost constant equal pressure of about 30 inches on the barometrical column, and that in consequence of that rarefaction taking place, produced by the action of caloric on matter, and especially upon aerial bodies, the atmosphere was raised to a greater extent from the globe at that part, and therefore the aerial fluid being deprived of caloric, as it extends, would press towards the poles; in consequence of this and the polar condensation, there occurs a pressure of the upper strata northward and southward: but the condensation of the air at those extremities producing a tendency nearer the surface to fill up the space at the equator, a current in that direction, i. e. from the poles to the equator, is thus produced. This would be constant, equal, and unvarying, if not interrupted by numerous causes; and were our globe smooth, at rest, and not affected by other bodies, it would be the case: but the motion round its own axis from west to east is productive of a counter pressure from its inertia from east to west; and thus we have a deflection of the polar current in a north-east and south and east direction, producing the trade and monsoon winds at the equator. But a diminution of the velocity, as we approach the poles, will produce a consequent diminution of this deflection; hence we have one cause of variation, which however would be trifling, and at any rate very equal, but for others. Thus, the roughness of the surface from lands, and their unequal and varying heights operating mechanically, their changing and unequal properties in regard to temperature, operating chemically, offer obstacles and interruptions to these currents close to the surface, producing every variety of current denominated winds.

The northern hemisphere, during our winter, receives a greater proportion of the superincumbent atmosphere, which from the density being greater, and the caloricity being less, inclines more to this pole; hence the greater pressure and higher range of the barometer in winter than in summer. Thus there is another interruption to equal pressure from this deviation of our globe.

The pressure exercised by our moon, is known to influence

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pendent upon the maintenance of the equatorial and polar currents, with a certain determinate velocity in the different parts of their courses, and that no disproportionate alteration or interruption in these could take place without a corresponding effect upon the mercurial column."

It is to aqueous condensation, and not in changes of temperature alone, that we must look for the cause of barometrical changes, and thus the tropics do not show more than a quarter of an inch alteration, while beyond them three inches are produced.

the tides, which, effected through the medium of the atmosphere, will influence the barometrical column to a greater or less degree.*

The observations hitherto made in meteorological science have mostly been applicable to other continents and other countries. It remains yet to see how far they are applicable to our own. That a difference exists with regard to barometrical pressure has been observed on the two sides of the Atlantic; and that the pressure is greater on this side the Atlantic than on the opposite—the difference between this city and Liverpool being one half an inch. How this may be resolved is yet to be determined.

That a difference of temperature exists in the same latitudes, is well known, with respect to our continent and the opposite. And perhaps temperature may be said to be more influenced by situation than barometrical pressure; but that it influences the column of air can hardly admit of doubt. The density of the air on the top of high mountains accumulating, it will make the pressure proportionably greater, though the column may be shorter. The shortening too of the column of air preceding storms, and the oscillatory motions while they last, as indicated by the barometer, point out to us condensations and rarefactions taking place at some point or points, as the commencing motion; which was illustrated by Dr. Franklin, in his simile of opening the gates of a full canal, by which he explained the retrograde course of tempests, in both of which, the commencing motions occur at that point where the vacuum is first produced.

Thus our north-east and south-east winds commence by condensations upon the Alleghanies, which, extending from Georgia to the gulf of St. Lawrence, receive and condense among its snowy tops the atmospheric column. In the winter months, that condensation being farther south, the pressure is more from the north, which gives rise, with the motion spoken of, to a north-east current; this bringing its moisture from the sea, deposits it with the condensing atmosphere upon that part to the north and west of us, until the accumulating column, no longer able to counterbalance the pressure from the low lands, rushes to the coast in a westerly and north-west current, which those tempests terminate with, bringing clear and cold weather, though sometimes bringing back some redundant moisture in the shape of snow—the most of it being deposited upon the top of the Aleghanies in that shape: but in the summer months, the condensations taking place more to the north of the chain, the rush from the sea takes a more north-west course, producing the south-east wind with rain, they coming loaded with vapor by evaporation from the gulf stream; and these winds usually blow one, two, or three days, before the vapor from the sea is condensed and deposited in the form of snow and rain. Thus we find that these phenomena of storms and rain may be looked for in the points to which they tend, rather than in those from which they appear to arise.* But the showers and afternoon and evening gusts to which we are liable, are to be traced to the same causes operating in a different manner, viz. to the evaporation of the moisture of the land, which, condensed and accumulated in the higher regions in the form of clouds, returns to us in genial showers; or these vapors accumulating, charged with electricity and inflammable gases, and pressed against the cold tops of the Aleghanies, they come to us from the west in all their fury, when the decline of the sun produces the calm, intermediate between the sea and land breeze; and exchanging their superabundant electric fluid with the earth or with each other, firing in their course the inflammable gases, some of which add to the condensing rain, creating vacuums to fill, when the pressure of the surrounding atmosphere rushing in, occasions those heavy vibrations denominated thunder, till an equilibrium of electricity, pressure, &c. takes place.†

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* The greatest range of the barometrical variation the last year, was in March, being 1.55 inches.

The maximum of pressure occurred in December, on the 4th, at 9 o'clock in the morning, the wind N. W. and the ther. 22° when the column indicated 30.75 inches—the next was 30.67, on the 23d of Oct. ther. at 32°.

The time when the column was shortest, was the 26th of March, when it was only 28.95 inches at 3 P. M.—the difference between this and the highest in March, is 1.80 inches.

July is asserted by Mr. Kirwan to be the hottest month in our hemisphere, above 48°, and lower in August; but in neither of these did the thermometer rise to the highest point the last year, but it was in May 29d when it rose to 91°. The next highest was in July and September, when it rose to 90°.

The same author also asserts, that in every latitude January is the coldest month: this was the case the last year, when the thermometer fell to 3°, as well as the previous year; and in February, to 5°. The range in January was 47°; in February it was 45°—in the whole year, 86°.

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* Thus in winter, the westerly winds are more severe and prevalent; in summer, the north and north-west.

† Thus, our S. W. winds sweep over the heated soil of Mississippi, Georgia, the Carolinas, &c. together with the mass of vapor continually struggling to advance from the equatorial regions, expanding and condensing in its course, as would necessarily be the case with this atmosphere; for it will be recollected that we have two—one, the permanently elastic gases; the other in the form of vapor, never permanent, but continually changing its density. These winds, the effect of those condensations already spoken of, bear with them the materials for those sudden blasts which surprise us ere we are aware, with whirlwind, dust, and thunder.

The fact of all our thunder gusts coming from the west, and usually between the hours of three and seven in the afternoon of hot and sultry days, may thus be accounted for. How far the relations of electric fluid and calorific power are connected with these phenomena, as occurring most frequently while the sun is over our hemisphere, remains to be determined.

The influence which these mountains have in lowering the temperature of the country between them and the coast, cannot be small, and the general height of the country covered with forests adds to this. Facts and observations seem to render the inference justifiable, that at a certain height in all latitudes, the temperature is constantly that of congelation—higher of course at the equator than at the poles, where this state is near the surface. This height is thought by M. Bougue to be 15,577 feet above the sea at the equator, at 28° north latitude, 13,540, in summer. This of course is lower in winter; at which time the upper strata are found frequently warmer than the lower, attributed by Mr. Kirwan to currents of heated air from the equatorial regions. That the swamps, forests, lakes, &c. have their influence in rendering the temperature of North America so much below that of the countries under the same parallels in the old world, is beyond a doubt; although how much is to be attributed to the influence of uncleared land, cannot be determined until a more numerous population shall have removed those obstacles to the sun's rays. But the influence on the phenomena produced by elevation of land, lakes, and rivers, cannot be expected to be removed. But since facts and reasoning induce the belief that the influence of the solar rays are greater in elevated situations, as well as at the poles, we ought to expect that the extension of population will, from exposing a greater surface to the solar beams, produce an increase of moisture first, with increase of heat afterwards; consequently, summers attended with more precipitation of vapor, followed with milder winters, should be the effects of the felling of forests, the turning of soils, the draining of lands, which are going on in our country with almost magic-like rapidity; and finally, a climate with the heats of Asia and Africa, fanned by breezes, cooled by the snow of the lofty Alleghanies, which will also continue to give us wintry blasts, returning from them loaded with snow and sleet, as long as the Green mountains and White hills of New-England shall stand.

Hence, instead of expecting that our climate, which every one denounces for instability and variableness, shall become the settled, mild and genial clime, which our fellow-beings on the opposite shores of the Atlantic in the same latitudes enjoy, we cannot but anticipate a continuation of permanent changeableness, to which the circumstances of locality must lead, unless we can overturn mountains, exhaust our lakes, turn our rivers from their courses, and stop the flood of increase of human beings.

Evaporation is the source of clouds, rain, and moisture generally, proceeding either from the surface of the earth itself, in the immediate or the neighboring latitudes, or of the sea; in either case, this moisture always pressing northward in our hemisphere, from what has been said, must be greatest near the surface, as in that region of eternal congelation above us, the atmosphere must necessarily be dry; and if the deductions of Mons. Bouguer be correct, clouds form within 15,577 feet of the level of the sea, although probably never rising so high as that in our climate, but the height must vary from varying circumstances of situation of land, strata of air, &c.

From our observations the past year, it appears there have been 73 days of rain and snow, during which there fell 40.538 inches of water, of which 21.926 inches were from 1st April, 1829, to 1st Oct. 1829, and 18.612 fell from 1st Oct. 1829, to 1st April, 1830. The quantity estimated by Mr. Dalton for England, was 31 inches annually.

The quantity fallen this last quarter in this city, that is from 1st of April to 1st of July, was 10.9 inches, which at the same rate the whole year, would give 43.9; but although it has been a very wet season in June, there being eleven rains besides several showers, the previous years 1828—29, compared with the past, was productive of more rain and moisture. In that year there fell upwards of 46.58 inches of rain, whereas the last year has given but 40.538 inches. This does not of course include the past quarter, April, May and June, but the precipitations even of the past three months was not so great as that of the same quarter in 1828, which stood thus:

1828,		and in 1829,		1830.	
April, 4.42	4	April, 4.82	7	April, 3.03	6
May, 5.97	8	May, 2.06	7	May, 3.01	7
June, 5.08	8	June, 4.20	9	June, 4.86	11
Inches, 15.47	20 Rains.,	11.08	23	10.90	24

Thus the last quarter since April 1st, has not been so abundant in rain as the same quarter in two previous years.

The mean heat by the thermometer was in April, 60°. The maximum being 84, the minimum 36. That for May was mean 64, max. 80, min. 48. For June, mean 71.5, max. 89, min. 54. The variation of the barometer has not been to great extent—although frequent and sudden, the max. was

30.44, the min. 29.4, diff. 1.04, mean, 29.92. Last year, 1829, vegetation was backward and slow, the season not opening so early with the warmth of spring. This year it was reversed, and the commencement of the spring was so warm as to render a change afterwards of a cooler nature somewhat unpleasant and unhealthy.

During the summer, the average barometrical pressure was but a trifle from 30 inches. The greatest heat was 90°; the least, from 1st of July to 1st of Oct. 38; the mean was 64. August was not so warm as July and Sept.: but none of the summer months were as warm as those of the previous year. In the fall the barometer was quite low, 29.17, and as high as 30.75; while the mercury stood so low, a violent storm occurred. The average heat until the 1st of January, was about 45°, although the thermometer was down to 25 in Nov. and 22 in December. But in January and February the cold was much more intense than in the previous year, but was not so continued; it was 3° above in the former, and 5 in the latter month. In March it was as low as 18°, but rose to 68.

The quantity of rain which fell in the spring quarter, has been stated at a little over 11 inches, with 23 rains. The next quarter there was 11.846 inches, viz. in July, August and Sept.

The next quarter there was 10.22—what fell in the following quarter amounted to 8.392 inches.

The greatest quantity that fell in any month, was in August, when there was 5.036 inches.*

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*Much misapprehension seems to exist with respect to locating the thermometer, in order to obtain the best observations, by which the accounts we receive of the state of the temperature differ very much; some place it in soda, subject to the influence of melting ice; others place it in a close room, the air of which may not be changed for several days; by others it is subjected to strong reflected heat, and others exclude radiant caloric altogether. Thus the grand object is lost sight of, which would appear to be to ascertain the temperature the body is exposed to in our usual occupations and intercourse. For this purpose, we do not wish to surround it with ice, or subject the air to be cooled, previous to its coming to the thermometer, by cold marble, and passing through cold passages: in a close room we are liable to take the temperature of the morning at noon, or that of yesterday to-day. Our bodies are subjected to reflected heat every step that we move out of our houses, and it is reflected heat that makes the difference between town and country, in doors and out, and of the upper and lower strata of the atmosphere. In walking our streets we are exposed to the radiant caloric from houses and pavements, by which the thermometer is raised, unless a breeze of cool air keep it down; while at other times a southerly wind prevailing, will raise the thermometer higher than the usual concentrated heat.

To preserve, therefore, the main object of meteorological observations, a situation has been chosen for our thermometers out of doors, but in the

The past year has been noted for the epidemic prevalence of scarlatina, which has been very rife and fatal; except this, the summer months were not more than usually productive of their peculiar diseases; nor did the winter give rise to more than the usual number of those diseases consequent upon diminished temperature; but the past quarter may be said to have originated a more than ordinary quantity of the diseases arising from moisture. But this is invading the province of another committee, upon whose rights we would not infringe.

Monthly Meteorological Summary, from April 1*st*, 1829, *to July* 1*st*, 1830—*for New-York.*

1829.	BAROMETER.				THERMOMETER.				RAIN.	
	Max.	Min.	Diff.	Mean.	Max.	Min.	Diff.	Mean.	Depth.	No.
April	30.2	29.2	1.0	29.7	79	36	43	57.5	4.82	7
May	30.225	29.35	.875	29.78	91	43	48	67.	2.06	7
June	30.22	29.52	.70	29.87	84	52	32	68.	4.20	9
July	30.44	29.80	.64	30.12	90	56	34	73.	2.64	6
August	30.30	29.67	.63	29.98	88	55	33	71.	5.036	8
September	30.37	29.69	.78	30.08	90	38	52	64.	3.17	5
October	30.67	29.5	1.17	30.085	72	30	42	51.	3 67	4
November	30.26	29.17	1.09	29.715	61	25	36	43.	4.42	8
December	30.75	29.45	1.30	30.1	66	22	44	44.	2.13	5
1830.										
January	30.40	29.35	1.05	29.875	50	3	47	26.5	3.40	3
February	30.57	29.5	1.07	30.035	50	5	45	27.5	0.94	4
March	30.5	28.95	1.55	29.725	68	18	50	43.	4.052	7
April	30.44	29.64	0.80	30.04	84	36	48	60.	4.82	7
May	30.32	29.7	0.62	30.01	80	48	32	64.	2.06	7
June	30.18	29.4	0.78	29.6	89	54	35	71.5	4.20	9

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shade, with a northern aspect, and subjected to but little reflected or radiant caloric, being opposite to vines and other vegetables. The barometer is of course within doors.

Accompanying this report, we present a table of the particulars of the different observations for the past year, and also for the past three months. We have also in preparation an annual tabular view of the maximum and minimum degrees of the thermometer for the past ten, and, if possible, for the past twenty years. It is not yet complete, but we hope to have the means of completing it, although we have not as yet the materials.

METEOROLOGICAL TABLES, from April 1*st*, 1829, *to April* 1*st*, 1830, *for New-York.*

		BAROMETER.			THERMOMETER.				RAIN.	
1829.		Greatest pressure.	Least pressure.	Difference.	Greatest range.	Least range.	Difference.	WINDS.	Inches deep.	WEATHER.
April	1st to 10th	29.875	29.2	0.675	61	37	24	most from E. or S.	3.06	two rain storms
	10 to 20	30.05	29.55	0·50	80	43.6	32	most from W. and S. E.	0.96	rain three times, generally clear
	20 to 30	30.2	29.65	0.55	79	44	43	most from N. and E.	0.8	rain twice, generally clear
May	1 to 10	29.45	29.35	0.60	73		30	most from N. and E.	1.02	rain twice, much cloudy
	10 to 20	30.225	29.65	0.575	78	57	34	most from S. and W.	0.70	rain three times, generally clear
	20 to 31	30.2	29.75	0.45	91	56	34	most from S. and E.	0.34	rain twice, generally clear
June	1 to 10	30.20	29.60	0.60	78	55	22	" S. and E.	1.40	rain twice
	10 to 20	30.22	29.59	0.63	84	52	29	" N. E. and N. W.	1.50	rain four times
	20 to 30	30,22	29,52	0.70	80	56	28	N. W.	1.30	rain three times
July	1 to 10	30.36	29.9	0.46	83	57		S. W.	1.28	rain twice
	10 to 20	30.3	29.8	0.50	90			S. E. and W.	0 56	rain once
	20 to 31	30.44	30·03	0.41	88				0.820	rain three times
August	1 to 10	30.28	29 77	0.51	88	65			[illegible]	rain four times
	10 to 20	30.30	29.67	0.63	87	60	27	S. E. and W.	2.48	rain twice
	20 to 31	30.12	59.75	0.37	85	55	30	S. E. and N. W.	0.66	rain twice
Septem.	1 to 10	30.14	29.69	0.45	90	47	43	S. W. and N. W.	0.44	rain once
	10 to 20	30.37	29.9	0.47	74	44	30	N. W. W. and S. E.	0.83	rain twice
	20 to 30	30.32	29.69	0 63	76	38	38	S. E. and N. W.	1.90	rain twice
October	1 to 10	30.30	29.78	0.52	71	37	34	mostly from S. W. to N. W.	0.36	rain once
	10 to 20	30 36	29.70	0.66	70	40	30	more E. and N. E.	1.08	rain twice
	20 to 31	30·67	29.5	1.17	72	30	42	mostly N. E. to S. E.	2.23	storm once, violent, with very high tides
Novem.	1 to 10	29.91	29.17	0.74	55	33	22	" N. E. or N. W.	0 58	two rains, one violent storm, with high wind
	10 to 20	30.26	29.60	0.66	57	25	32	much N. W. and W.	2 35	rain twice, one storm
	20 to 30	30.26	29.35	0.91	61	29	32	" N. E. and variable.	1.49	rain four times,
Decem.	1 to 10	30 75	29.70	1.05	66	22	44	mostly N. W. or S. W.	0.51	rain twice
	10 to 20	30.50	29 45	1 05	56	27	29	" W,	0.96	rain once
	20 to 31	30.46	29.48	0.98	57	27	30	" W. and N. W.	0.66	rain twice
1830.										
January	1 to 10	30.33	29.42	0,91	50	25	25	" S. W. to N. W.	1.84	rain once
	10 to 20	30,40	29.35	1.05	49	15	34	N. E. S. W. and W.	0.52	rain once
	20 to 31	30.26	29.65	0.61	44	3	41	N. W. and W.	1.04	snow once
February	1 to 10	30.57	29 53	1.04	40	5	36	N. W. and W.	0.50	one rain, and one snow
	10 to 20	30.22	29.5	0.72	50	12	38	N. E. and W.	0.00	no rain or snow
	20 to 28	30.25	29.60	0.56	50	30	20	W. and N. W. more S. W.	0.44	rain twice
March	1 to 10	30.40	29.22	1.18	43	18	25	W. and N. W. more S. E.	1.119	one snow with misty and foggy weather
	10 to 20	30.5	29.7	0.80	57	27	30	W. and N. W. and S. E	0.563	rain twice
	20 to 31	30.5	28.95	1.55	68	31	37	N. W. and S. E.	2.37	rain three times, snow once, with violent wind

ART. VI.—*Observations on Hydrophobia. By* JOHN S. BOWRON, M. D., *of New-York.*

THE rapid improvement of the science of Medicine, within the last fifty years, is to be attributed, in a great measure, to the cultivation of the study of pathological anatomy. In no country has morbid anatomy been prosecuted with such indefatigable zeal, and untiring industry, as in France. To its schools we are indebted for many of the greatest improvements in the healing art. Ancient and fallacious doctrines have been exploded, and in their stead, a beautiful system has been introduced, which will be as stable and as lasting as time; for it is founded on the immutable principles of truth. The physiological doctrines of Broussais have had their origin in pathological anatomy; and although they may inculcate many errors, yet, being founded on facts, and legitimate deduction, they cannot fail of an ultimate triumph.

Notwithstanding, however, the acknowledged importance of pathological anatomy, it is very evident that symptomatology is at least of equal importance to the physician. There are many diseases, particularly of the nervous system, which can only be understood by a thorough knowledge of symptomatology. And then again, the symptoms can only be understood by those who are intimately acquainted with the science of life. We must first know the nature of the healthy functions, before we can tell when they are deranged. I am well satisfied, that many of the most formidable of human maladies destroy life, without leaving any appreciable alteration of structure in the part primarily affected. Owing to the minute and delicate structure of the nervous system, pathological inquiries frequently fail to discover any material alteration in it, even when it has, most unquestionably, been the primary seat of the disease.

A great difficulty in the investigation of many diseases originates from a combination of consecutive, with primary affections. If we could see our patients early in the complaint, this difficulty would generally be avoided. When circumstances will not admit of this, then we must be governed by the present condition of the complaint. By a careful examination of all the symptoms, and peculiar features of the disease, and with the aid of analogy, we shall generally be able to ascertain with accuracy, the first link in the catenation of morbid functional derangement. For, notwithstanding in all diseases affecting the whole system, and consequently attended with febrile disturbance, every part must be more or less implicated; yet, from the manner in which the symptoms are blended, and the greater or less disease manifested in the different tissues of the body, there will be discovered sufficient evidence to determine the seat of the primary affections.

I have been led to make the foregoing remarks, in consequence of the little light that has been thrown upon the nature of hydrophobia, by post-mortem examinations. We are all aware of the discordant and even contradictory statements that have been made, relative to the condition of the parts examined in dissection. Our only infallible guide, therefore, in this disease, must be a careful investigation of the symptoms.

From the commencement of the rabies, there are the most palpable and manifest appearances of the operation of some potent and deleterious poison on the nervous system. The first symptoms of the disease are, great depression of spirits, languor, and love of solitude. There is a gloominess of mind indicated in all the actions of the patient, which is exceedingly painful to behold. Instead of his usual sociability, he anxiously shuns even his nearest relatives, is timid and apprehensive, and easily alarmed. After a little while, the whole system of the nerves of sensation acquires a degree of morbid acuteness, that is never witnessed in any other disease. The senses of sight, touch, hearing, and smelling, seem to acquire the most singular and remarkable delicacy of perception. The sense of touch becomes so exquisite, that the gentlest current of air will distress him, and sometimes produce convulsions. In many cases, the sense of feeling has been so delicate, that the patient could not be touched without exciting violent spasms. Noises of every kind are very distressing and annoying to the patient: even the gentle falling of water will produce convulsions. The sense of sight is also morbidly acute. Bright shining bodies are particularly dreaded. The reflection of a mirror will excite the most distressing spasms. The olfactory nerves are likewise very much affected. The most delightful odors are offensive, and even painful. In short, the whole sensitive system obtains a morbid delicacy of perception, which is never observed in any other affection of the body. Perhaps no part of the system, however, acquires such a high state of irritability, as the larynx. The epiglottis, which is placed as a sentinel over the larynx, is so highly sensible, that even the *idea* of swallowing a fluid, will make it close the glottis with such tenacity, as to threaten suffocation. Should the patient attempt to swallow a little water, the most awful convulsive action, indicating the most horrid agonies, will be the consequence. A patient thus perishing with thirst, and the most pressing desire to gratify it, is unable to swallow any kind of fluid, and consequently must suffer under the most distressing deprivation. In addition to all these afflictions, he is harassed by the greatest irritability of mind. Perhaps it would be impossible to describe the degree of mental agony which the unfortunate victim is doomed to undergo. Every thing without and around him, fills his mind with terror and dismay. He is haunted by every kind of imaginable danger. Even the sight of friends, which, under other circumstances, would be a solace to an afflicted mind, only serves to heighten his agony, and superadds to a weight, which is already sinking him rapidly into his grave. After a continuance of these symptoms for a few days, the patient will expire, apparently from suffocation.

From the symptoms of the complaint, which I have concisely mentioned, we are irresistibly led to conclude, that the cerebral organs and nerves of sensation are the parts primarily affected in hydrophobia. Although febrile commotion and inflammatory affections of different parts do often supervene, yet they are only consecutive, originating from the primary irritation upon the nerves of sensation.

Some medical authors, within the last few years, have expressed an opinion, that hydrophobia is not a specific disease, originating from a specific virus. They contend that it is only a tetanic affection, produced as often by a splinter or nail, as by the bite of a rabid animal. Perhaps an opinion so entirely gratuitous, and altogether unwarranted by facts, need only be mentioned, to show how far medical credulity may be carried. When we remember, however, the respectability of many of the writers who maintain this opinion, it makes the subject worthy of serious consideration.

The principal foundation for this opinion, appears to arise from the fact, that in tetanus, as well as in hydrophobia, we frequently observe a great difficulty in swallowing liquids. If we admit this fact, what does it prove? Why, nothing more than that in two entirely different affections, we sometimes discover some symptoms that are alike. When this accidental similarity exists, are we therefore bound to believe in the identity of the two diseases? If fever is one symptom of measles, as well as small pox, are we therefore to consider them as the same disease? If head-ache should attend gastric irritation, as well as acute-cephalitis, are we to suppose that there is no such thing as an inflammation of the brain? Surely not. And yet such a conclusion is equally rational, with the belief in the identity of hydrophobia and tetanus. We here see the folly of taking any one symptom, as diagnostic of any complaint. It is only by considering the symptoms in the aggregate, that we can form a rational opinion of the character of a disease. The difficulty of swallowing fluids is only one symptom of hydrophobia, and perhaps less characteristic of the disease than many others.

As there can be no doubt that tetanus has been mistaken for hydrophobia, it may not be improper to notice the great dissimilarity which exists between the two complaints. In hydrophobia, the convulsive paroxysms produced by swallowing fluids, originate from a sense of suffocation, in consequence of a convulsive spasmodic closure of the glottis. In tetanus, the difficulty is entirely of another kind: the patient has no dread of fluids; he will call for drink with the utmost composure; but in endeavouring to swallow, the œsophagus will act irregularly and convulsively, in consequence of an affection of the motory nerves. In hydrophobia, the power of swallowing, so far as the œsophagus is concerned, remains unimpaired. It is the convulsive action of the epiglottis, producing a sense of impending suffocation, that produces the distressing convulsions in rabies.

Another obvious distinction between the convulsions of tetanus and hydrophobia, is the manner in which the spasms are brought on. In hydrophobia, they are nearly always produced by some external impression on the senses. Disagreeable objects that present themselves to the sight, unpleasant smells, disagreeable news, loud noises, &c. are common exciting causes of convulsions in hydrophobia. In tetanus, on the contrary, all these impressions on the different organs of sense, may be made with impunity: the patient will continue calm and tranquil; his mind unruffled and composed. He will converse with his friends, and ask for those very things, which, in hydrophobia, would produce the most violent spasms. The convulsions in tetanus appear generally to originate from nothing external, but are produced by some internal irritation, which does not affect any of the organs of sense. Hydrophobic convulsions are of the epileptic kind, and are entirely different from tetanic spasms, which are produced by an irritation of the motory nerves.

There is still another argument advanced in opposition to the opinion that hydrophobia is a specific disease. It is often mentioned with an air of triumph, that hydrophobia frequently originates spontaneously, without the bite of a rabid animal, and consequently is not propagated by a specific virus. Criticism is here again running directly in opposition to facts. These reasoners contend, that contagious diseases can never originate spontaneously. In a paper of this kind, it would be improper to adduce many arguments to prove the fallacy of this opinion. I will, however, assert, in the most unqualified manner, that all contagious diseases, of every kind, frequently originate spontaneously. I would ask how the human family has become afflicted, by such a host of contagious complaints? Have they been sent by Providence as a scourge to the human race? Or have they not rather originated from some fortuitous concurrence of circumstances, which are frequently happening? In the impressive language of that profound scholar and philosopher, Dr. Mitchill, I will assert, "if that most loathsome and contagious of all complaints, small-pox, should be entirely annihilated and destroyed from the face of the earth to-day, it would again make its appearance to-morrow." And it would be the same with all other contagious diseases. What then? Shall we have the hardihood to assert, that they are therefore not contagious complaints? Surely not. To me it has always appeared, that as storms and tempests, earthquakes and volcanos, chemical changes and alterations of matter, which are for ever altering the face of inorganic substances, so contagious and epidemic disease, and pestilence of every kind, are the inevitable predetermined destroyers of living organic bodies, destined to swallow up animal life, in the great crucible of universal transformation.

Perhaps nothing has contributed so much to make certain authors doubt the existence of a specific poison, as the great length of time that frequently elapses from the infliction of the bite of a rabid animal, to the appearance of the disease. A little reflection, however, will convince any one, that no argument can be drawn from this fact, to disprove the contagious nature of hydrophobia. Every one admits the contagious character of the venereal disease; and yet how long a time will frequently elapse, from the introduction of the poison to the appearance of its effects. A chancre will sometimes appear in twenty-four hours; and then again require three months to be developed. Prussic acid will destroy life in one minute. We therefore perceive, that acknowledged poisons produce their specific effects, at very different periods; consequently, no argument can be drawn from the earlier or later appearance of the disease, against the existence of a specific poison. Many accidental circumstances may accelerate or retard the developement of symptoms, resulting from the poison.

That hydrophobia originates from a specific virus, we have the most abundant proof. I would ask how the contagiousness of any disease has been ascertained: most certainly from observing its effects. In consequence of most people's being able to escape from the attack of rabid animals; and also in consequence of their clothing protecting them, more or less, from the introduction of the poison, we seldom hear of many individuals having hydrophobia at the same time. Among animals, however, the case is different. We often see whole herds of cattle and domestic animals, perishing with rabies, introduced by the bite of a rabid animal. In Great Britain, whole kennels are frequently destroyed by hydrophobia. Mr. Meynell, the celebrated English sportsman, declared, that in no instance had hydrophobia ever been introduced into the kennels, except by the bite of a dog affected with rabies. In this country, the same thing is every day observed. I am acquainted with several instances, where a whole herd, with the exception of two or three, have been bitten by a mad dog; and every one that was bitten died with the hydrophobia; whilst those that were not bitten have continued healthy and well. With all these facts before us, to deny the contagiousness of hydrophobia, would show a degree of mental aberration, which facts of any kind would probably fail to convince.

From the foregoing considerations, I think I am warranted in the following conclusions:

That hydrophobia is a disease sui generis; the primary affection being in the cerebral organs and nerves of sensation. That tetanus and hydrophobia are different diseases; the primary affection in the two complaints being on different portions of the nervous system; and that hydrophobia is a disease produced by a morbid poison, introduced into the system by a rabid animal.

In consequence of the vague and conjectural opinions of the nature of hydrophobia, that have been entertained by celebrated writers, in Europe as well as in this country, we find that very different, and indeed, entirely opposite plans of treatment are advised by the highest authorities. An anxious desire to find a remedy for one of the most terrible of human maladies, without, in the first place, investigating the nature of the disease, has been the cause of this endless variety of treatment. The most important inquiry in every complaint, should be the primary cause of its phenomena. When this is well understood, the proper treatment will be obvious to every one acqainted with physiology, and the operation of remedies upon the human system. Hence I have always considered it a waste of time, to devote much attention to the great mass of medical writings, which have reference to the treatment of diseases. It has always been found, that in proportion to the perfection of our knowledge of the pathology of a disease, our remedies have been simplified and diminished in number, I therefore feel a reluctance to say much about the treatment of hydrophobia. It is very certain that this, as well as every other complaint, can only be judiciously treated upon general principles; and I shall therefore conclude with a very few cursory remarks upon this part of my subject.

We daily see announced in the public prints, some new remedy for this disease; but it has uniformly been found, that all the specifics hitherto recommended, are entirely useless and unavailing. Indeed, when we hear of a specific remedy for any disease, we may with much propriety doubt the truth of its alleged efficacy; for, according to the general acceptation of the term, there is no such thing as a specific remedy for any disease. Whenever I have heard practitioners speak of such remedies, it has always impressed me with a belief, that they were ignorant of the pathology of the complaint for which they would recommend it. It will generally be found, that all those complaints in which these medicines are used, are but imperfectly understood. To this ignorance of the nature of disease, we may attribute the use of such a great variety of remedies,

It would be unnecessary even to mention, in this paper, the different plans that have been adopted, for the cure of hydrophobia; for they are well known by almost every practitioner. It is now, I believe, pretty generally conceded, that after the disease is fully formed, any attempt to remove it will commonly fail of success. Such is the force of the morbid impression, and its disorganizing influence on the system, in most cases, that nothing can arrest the fatal termination. It is evident, therefore, that the principal object we should have in view, should be to make use of such remedies as are calculated to prevent the appearance of those symptoms which are indicative of the fatal ravages of the disease. Excision of the bitten part, when attended to soon after the infliction of the wound, has in every instance prevented the approach of the complaint. This should therefore be attended to immediately, in all cases.

Whether any medicine could be given internally, to prevent hydrophobic symptoms, after the poison has been introduced into the system, may very justly be doubted. There is, however, some strong circumstantial evidence in support of such an opinion. When we reflect, that many contagious complaints, can be very much mitigated, and the violent symptoms prevented, by a careful attention to precautionary measures, we have additional reasons for believing that such may be the case in hydrophobia, as well as in other diseases.

I am acquainted with several instances, which by the administration of scutellaria, either in substance or decoction for several weeks, alternated occasionally by the use of some mild laxative, has apparently prevented an attack of the disease. These experiments have generally been made on animals; they are not, however, of less consequence on that account. In those cases where a number of animals have been bitten at the same time, those to which the medicine was administered have escaped the disease, while those to which none was given, and which were intentionally separated from the others, have all died with rabies. From the known operation of this medicine upon the human system, it is not altogether improbable that it may be advantageously used to prevent those violent symptoms which are the certain precursors of death. Given in moderate portions, it has considerable diaphoretic effect; at the same time it gives tone to the stomach and bowels. The operation of many other medicines is nearly similar, and probably if used with similar intention, would, perhaps, produce the same results. To me it appears very probable, that a strict attention to diet, and the avoidance of every thing of an inflammatory nature, in conjunction with some diaphoretic medicine, and occasional laxatives, might have a tendency to eliminate the morbid poison from the system; or, at least, so far modify the disease as to prevent a fatal termination. After the supervention of convulsive paroxysms, and all the other symptoms indicative of a highly disordered state of the nervous system,—palliative, soothing treatment, the use of the vapor bath, and suitable anodynes, and the avoidance of every thing calculated to irritate,—promise, in my opinion, greater prospect of relieving the patient, than any of those herculean remedies which are so highly recommended by different authors.

ART. VII.—*Inquiries and Observations on the Bilious Remitting Fevers of Michigan.* *By* J. V. D. SUTPHEN, M. D.

> Non ego cuncta meis amplecti versibus opto:
> Non, mihi si linguæ centum sint, oraque centum,
> Ferrea vox: ades et primi lege littoris oram.
> *Vir. G. 2 to 42.*

PART I.—TOPOGRAPHY.

THE modifications produced by the climate, soil, and natural productions of a country, essentially affect the character of its diseases, and every medical history must be defective which is unconnected with such topographical detail.

Diseases of Alpine regions, although they are nosologically the same, require a different treatment from those occurring on plains or in valleys; and those that appear in the cities of London or Paris vary materially from those of the same name in the highlands of Scotland; indeed, their complete identity is only retained when they occur under the same natural circumstances.

Conceiving this fact to be one of importance, the writer is induced to enlarge the plan first intended, by inserting an introductory history of the climate, soil, &c. of the territory of Michigan, and particularly of its south eastern section, where he resided. This particular is noticed to prevent error, as in the northern section of the territory, along Saganaw bay and the straits of Michilimackinac, the climate is much colder, and differs in many other respects.

This territory is situated between 42° 15″ and 45° 53″ N. latitude; and 7° 5″ and 11° 8″ West longitude from Philadelphia.

It is bounded on the north by lake Huron, the straits of Michilimackinac, and lake Michigan; on the east by lake Huron, the lake and straits of St. Clair, the river Detroit, and the head of lake Erie; south by the states of Ohio and Indiana, and west by lake Michigan.

The face of the country is low, level, and marshy. There is very little of what is popularly known by the apellation of *rolling land*, and it is without an elevation entitled to the name of a mountain. Seven-tenths of the whole country remains in a state of nature, covered with timber and wild grass.

In wet seasons the country is almost literally inundated, which very frequently takes place in the months of March and April; and in some instances continues to the first of June. From this time, there falls but little rain, and not unfrequently a drought sets in, which is oftentimes extreme. Nature, however, has given a substitute, in a dew far surpassing in quantity any thing of the kind I remember to have witnessed in any other part of the United States.

Fogs are frequent and excessive through the summer. The soil is generally a black sandy loam, intermixed with crystals of gypsum and decayed vegetable matter (from which it no doubt derives its color) to the depth of about two feet. The soil of timbered land is much darker and considerably deeper than on prairie lands, which have no appearance of having ever been timbered. On such prairies the wild grass rises to the height of five or six feet, which principally remains to decay on the ground, forming a thick and heavy covering of vegetable matter, in every stage of decomposition. On timbered lands, also, there is a stratum of black loam laying upon the natural soil, the formation of which has undoubtedly been in progress for hundreds of years, obviously from the decomposition of the natural products of the soil. The original soil is a light yellowish sandy loam and gypsum in minute crystals, underneath which lies a stratum of blue clay, bedding upon limestone rock. For the most part the soil is very productive, and still more so after a few years tillage.

When the earth is turned up for the first time, if it be done in the summer, and more especially towards the latter part of August, it exhales a very unpleasant odor, which may be perceived at the distance of half a mile, if circumstances are favorable. There are but few rivers in the territory of any considerable sise and durability, if we except those forming the territorial boundaries; the largest are the Maumee, (Miami of the lakes,) and upper and lower Huron. The others are small, except at the time of a great fall of rain, and even then, so sluggish in their motion, as to carry off very little of the great body of filth, necessarily, from the nature of the country, collecting in and about them.

The beds of all streams, except in a few instances, where they pass over limestone rock with more than usual descent, are composed of a loose, soft, black substance, formed, most probably, of decomposed vegetable matter. Creeks, or small streams, are more abundant; but these are reduced in number in dry seasons, many of them beving dried up, and many more become almost stagnant.

In this state, a great extent of shore, and bottom, is exposed to the action of the sun's rays, contaminating the atmosphere by their fœtid and noxious exhalations.

The spring months are wet, cold, and subject to sudden changes of temperature, and not uncommonly, to long continued and heavy rains.

The nature of the soil is well calculated to imbibe large quantities of water, and the face of the country is so level, that but a small proportion of the water that falls runs off the land; so that an inundation in miniature is often the consequence.

The prevalent winds through the spring, are from the east, north-east, and north, sometimes violent, but commonly gentle, damp, and chilly.

The month of June brings quite pleasant weather, with occasional hot days; the nights are almost universally cool, damp, and chilly, so as frequently to render fires agreeable after sunset.

The winds, some time in this month, change their generally previous points, for the south-west, and west, one of which courses they hold pretty steadily through the day; at night they usually shift to the north; the succeeding morning, they are again to be found in the west.

At this time, the summer fogs and dews commence, but remain rather slight until the middle of July, when they become constant and heavy. The fogs commence rising soon after dark, and attain the height of twenty or thirty feet, above which the atmosphere is very clear, the line between being perfectly distinct. Thus they remain until at, or near daybreak, when this boundary is gradually lost.

The month of July is uniformly warm, with respect to the days; the nights are as uniformly damp and chilly.

The winds remain westwardly, and now begin to bring an unpleasant smell.

The month of August is very similar to July, with an occasional extreme of heat; the dews are very heavy, so that I have almost been persuaded of a fall of rain, against the evidence of my senses, when I have passed more or less of every hour of the night in the open air.

The winds still remain at the points south-west and west, and have a faint, sickly, offensive smell; of which I can give no idea better than in the above terms.

This wind sweeps a great extent of country, which is almost as low and marshy as the worst part of Michigan, and as luxuriant in the growth of vegetables. Of many thousands of square miles laying west of this territory, not one in a thousand has ever been cultivated.

What then must be the quantity of decayed and decomposing vegetable matter exposed to the sun's rays, when the stagnant waters evaporate, and lay bare such an extent of surface? and what must be the effect?

It must, as a necessary consequence, exhale an enormous quantity of miasmata, which is brought by the west and south-west winds, immediately over the southern part of the territory; which when joined with what must originate from the same kind of lands within the territory itself, must necessarily render the air impure and unhealthy.

The autumn months are similar to those of the state of New-York.

The winter season is generally mild; there are very seldom more than two or three weeks of severe cold, and this for the most part consists in a few days at a time.

Snow seldom falls to the depth of nine inches, and even then lays but a short time.

Rain is more common through the winter than snow, probably depending somewhat upon the situation of the country, being almost surrounded with water.

The water of the country is what is usually denominated *hard:* containing lime, magnesia, sulphate of alumina, &c. There are a number of sulphurous springs in this country; the most remarkable one of which is situated on a low flat piece of land, north of Maumee bay, and about three miles from the head of lake Erie. It measures about thirty feet in diameter, with an almost perpendicular bank or shore, without any *known* bottom: and throws off a considerable stream of water, from which large quantities of sulpuretic hydrogen, and a small proportion of sulphurous acid gas, are continually disengaged. In the spring itself, the water appears of a yellowish green color, but when taken upon a glass vessel, it is perfectly limpid; it has somewhat of a styptic taste, and sulphurous fœtid smell.

The best waters of the country contain lime and magnesia. The water of rivers and creeks within the territory mostly contains lime, in the state of a carbonate and muriate, with some slight evidence of the sulphates of lime, magnesia, and alumina.

The waters along the eastern shore of lake Michigan, I am informed, afford 0.50 of the sulphate of iron. I have never been able, however, to discover iron in any form in the waters of the eastern section of the country.

The beds of rivers, creeks, &c., are composed of black loose earth, leaves, grass and decayed wood, which on agitation give off carburetted hydrogen gas. Even the water of rivers, in the months of August and September, contains an impure hydrogen gas, as may be proved by proper tests, after collecting a sufficient quantity, by exposing for a few days to the sun an inverted bell glass of such water, when the gas will be found in the top of the vessel.

The waters of the Maumee (which answers the general description I have already given of rivers in this territory) contain a much larger quantity of this gas above its rapids than below them, which will hereafter be spoken of, as affecting the health of those residing near the rapids. The atmosphere has been proved by experiment to contain carbonic acid gas, carburetted hydrogen and nitrogen, in greater proportions than are usually found in other parts of the Union. In fact, I do not know that carburetted hydrogen has been detected in the open atmosphere of any other place; although I suspect from this circumstance that it may be found, if properly sought for, in many parts of our western states. It appears to originate principally, if not entirely, from large collections of vegetable matter immersed in water, in shallow streams, which are most exposed to the sun's rays in the months of July and August.

The mean height of the barometer is somewhat below that of Philadelphia.

The thermometer ranges, during the summer, between 55° and 90°. At mid-day it frequently rises to 85°, or perhaps 90°; and by daybreak the ensuing morning, it will be found at 60°, and sometimes below. Indeed, it is seldom its range through the twenty-four hours is less than 10°, and not uncommonly 30°. It is frequently observed by strangers from New-York and the eastern states, that the same degree of heat is more oppressive, and the "air heavier," than in their native states, and likewise fatigue is brought on by less exertion than usual, after they have remained in the territory a few weeks. Indeed, it is a popular and almost universal opinion among laborers, that they cannot endure the exercise, and perform the labor they formerly did, in the eastern and middle states; but those from the southward, particularly from Savannah, Mobile and New-Orleans, enjoy more than a usual share of health and corporal vigor.

The following observations must be understood to belong exclusively to the former class of inhabitants, as the climate appears to agree perfectly with the peculiarities of the southern constitution.

In those from the middle and eastern states, a sallow complexion, yellowness of the eyes, and an increase of appetite, is almost universal, within one month after their arrival, if this should be in the summer or late in the spring.

As minuteness in observations is the key to an accurate knowledge of every subject, I shall introduce some remarks upon the effects of this climate, &c., upon the animal economy of the brute, as well as of the human species; for the former suffer equally in the derangement of the functions of the liver, spleen, primæ viæ, and sanguiferous system.

1st. Of the human species.

Different individuals are differently affected, according to the constitutional diathesis at the time of their arrival, the state of the system, their previous habits of living, &c. &c.

In those of a sanguine temperament, and full habit of body, we observe a peculiar sharpness in the pulse, and an increase in its formerly healthy number in a given time, while the individual is pursuing his daily occupation, free from every other symptom of disease. This continues for the summer season, at the end of which it returns to its natural feeling and frequency; but as certainly as the summer returns, so certain is the return of sharpness and increased frequency, until it becomes habitual.

I do not intend to convey the idea of what is called a wiery pulse; it is by no means hard or tense, but as I have already said, it has a peculiar sharpness, which will be recognised at the first touch of the physician as being altogether different. It appears to me, as a peculiar combination or quality of action, very difficult to be described with perspicuity.

The most marked cases of choleric temperament have presented me with nothing remarkably different from the sanguine, except it be a greater degree of strength, combined with the sharpness of the pulse.

The phlegmatic I had no opportunity of examining.

The melancholic temperament is marked by an intermitting, full, and moderately strong pulse.

In some, the pulse is observed to intermit every thirteenth stroke, others every ninth, and in one instance, in an old Frenchman, I observed it to intermit two strokes after every thirty-fifth; while, at the same time, the subjects were enjoying tolerable health, and following their usual avocations.

The hepatic functions are always more or less deranged. An increased activity of the liver in some cases, but more commonly an indolent state of it, follows the accession of warm weather. In both cases, the skin attains a thick yellow color, which is likewise the case with the eyes and urine. The secretions of the stomach are universally vitiated in a greater or less degree, as will hereafter be remarked.

The functions of the spleen (whatever they may be) are much deranged, suspended, or entirely annihilated. This organ is enlarged to that degree in perhaps three tenths of the inhabitants, that it may be perceived externally laying some inches lower than the stomach.

In some cases examined by Doctor Stickney, it was found indurated, of a light ash color, and its edges contracted, similar to the buffy coat of blood drawn from a patient in an acute inflammatory disease, and lay in a manner detached from the stomach by the elongation of their connecting vessels.

The intestines are very commonly inactive. Costiveness is a very common, and indeed an almost universal symptom in fevers, and if the patient neglects early medical treatment, it is apt to prove extremely obstinate. In some cases, however, the alvine excretions are fluid, remarkably fœtid, of a greenish yellow color, excoriating the anus, producing some degree of inflammation in the surrounding integuments, tenesmus and dysuria. The skin is universally more active in its secretions than is usually seen elsewhere.

The kidnies are frequently affected in their secretion to such degree, as to necessitate a person to void his urine every hour, or even in less time; in such cases, the urine is limpid, sparkling when agitated in a vial, of a disagreeable sweetish taste, and smells somewhat like fresh fish.

2d. Horned cattle suffer from this climate equally with the human species. It is very seldom we can find a sound liver: all have tubercles, ulcers, or indurations; either too hard and firm, or too soft and flabby—either too small or large in proportion, to be considered healthy and natural, or some other unnatural appearance, to denote disordered action. The spleen likewise is much affected, and even in a greater variety of ways than the liver. They frequently die in great numbers during the sickly season, (i. e., from the middle of July to the first of October,) with a disease called the murrain.

The pathology of this disease I do not understand; but the symptoms, as commonly seen, are a weakness and listlessness of the animal, a red, staring, glassy eye, urine very high colored, and the excrements mixed with grumous blood. They seldom survive eight-and-forty hours after an attack. When examined, post mortem, the horns are found to be hollow, the lungs dark colored, the liver, spleen and kidnies enlarged, soft, spongy, and filled with a bloody fluid; the large intestines black and gangrenous.

In case they recover, (which has happened,) the hair gradually falls off, the hoofs become spongy, and are cast in a few months, the eye remains a long time sunken, and it is with great difficulty that they are recruited in flesh.

It was the practice of the ancients to open and examine the organs of brute animals, for the purpose of determining upon the salubrity of any place they wished to inhabit, and even to discover the approach of a sickly season. If an Egyptian magician could have examined the internal organs of an animal of the cow kind, reared in this territory, he would indubitably have given his decided testimony against the salubrity of the place. In their most healthy state we find tubercles in the liver, the mesenteric glands enlarged more or less, and the tallow not as firm as we see in more healthy situations.

In the human species, the liver is very commonly diseased; but as we cannot examine in this case until after death, and while the disease is very commonly situated in, or implicating this organ in a great measure, we cannot determine whether the tubercles existed previously, or were produced by the last attack. This climate, notwithstanding, appears quite congenial and beneficial to phthisical patients; phthisis pulmonalis, I believe, has seldom, if ever, originated here, and all those who bring the disease with them are relieved in a short time of all the most troublesome and dangerous symptoms; and if not too far advanced, the disease gradually disappears.

The climate is warmer, i. e., the mean height of the thermometer is greater than that of the western section of the state of New-York; but the barometer stands below that of any of the middle or eastern states.

The vegetable productions of the country are fine, luxuriant in their growth, and yield an abundant harvest to the industrious husbandman; but, as if nature played at cross purposes, the most sickly seasons are attended with the greatest plenty. Often have whole crops of wheat and other grain been entirely lost, for the want of hands to secure them, occasioned by sickness.

Indeed, to such an extent do fevers prevail in some places, and seasons, that it is with great difficulty a sufficient number can be found in tolerable health to attend upon the sick.

In such seasons, mosquitoes are large, and numerous beyond comparison; the wild pigeons, duck, geese, and brant, are seen in astonishing numbers. Their flesh is very savory, and proves a valuable resource to the inhabitants; but the flesh of the forest deer is lean, ill flavored, and very apt to produce diarrhœa in those who eat it.

In this climate, we can frequently form a pretty accurate judgment with respect to the prevalence of health or disease, from the character of the year and other circumstances.

A dry winter and spring, succeeded by frequent showers, accompanied with thunder and lightning in the month of June; the absence, or rather scarcity, of mosquitoes; a clear state of the waters; a light bright green color of leaves and grasses; a clear atmosphere, and absence of fogs; scarcity of wild fowl, and particularly of the wild pigeon, &c., denote the approach of a healthy summer. But, on the contrary, if the winter and spring are wet, a drought setting in about the middle or first of June, mosquitoes very numerous, winds pretty constantly from the westward, an impure and ill-tasted state of the waters, with a want of their natural transparency, a dark purplish green color of leaves and grasses, with an abundant and rapid growth of vegetables, a hazy and foggy atmosphere, a great abundance of wild fowl, particularly of the pigeon; we may then almost to a certainty calculate upon a sickly summer. It has also been observed by the old French inhabitants, that in such seasons the wild rice, and other aquatic grasses, which commonly grow in creeks and rivers, in water from two to six feet deep, make their appearance earlier, and in greater quantities. This most probably is what calls together such numbers of water fowl, as they feed and fatten upon the wild rice, which yields so abundantly that several bushels may be gathered by a single man in a day. The rise and fall of Lake Erie has been thought to affect the health of the country.

At times, when the waters of the lake are not influenced by the wind, it rises and falls twice, and sometimes thrice in twenty-four hours, about twelve inches; whether this can strictly be considered a tide, (which is the opinion of some in that country,) or not, I cannot determine; but from various circumstances, I am induced to consider it as a mere fluctuation consequent upon previous motion, induced by the wind. This is what I shall call its daily motion, or rise and fall. It is declared by tradition and living testimony, that this lake rises and falls between two and three feet once in seven years; that is, it is on the rise seven years, and the same length of time falling. This is looked upon by the ignorant and superstitious as something more than the effect of a natural cause.

It appears rather doubtful whether this takes place at the exact period of seven years; it has no doubt occurred near this time in some instances, and such an observation would be sufficient to lay the foundation of an opinion of this kind. The fact of its standing higher some years than others is well attested. But as " the lake falls, fever calls." Cannot this be occasioned by miasma arising from the exposed shores of the lake?

It is acknowledged that during the fall of the lake, the territory is much more sickly than when it is on the rise; this can be explained, without supposing the shores of Lake Erie to be the origin. The only rational explanation that I can conceive of, is this: the want of an usual quantity of rain westward, from whence are derived all the waters of Lake Erie and the northern lakes. We well know that north-west, west, and south-west of this territory, there are immense tracts of wild, low, flat land, which are in wet seasons in a great measure covered with water.

Now let us suppose a few dry seasons to follow in succession, what would be the consequence? The waters would evaporate, and drain off the land, laying it bare and exposed to the rays of the sun, which, accelerating the decomposition of an immense quantity of vegetable matter, would thus produce miasmata sufficient to render the west wind noxious to animal life. And again, when these wet lands are dry, there must necessarily be a failure in the feeders of the lake, and a consequent diminution of its volume. Another fact which strengthens this opinion, is the commencement of sickness before the lake has fallen over six inches. This fall may partially lay bare a few acres of marsh; but then it must be remembered, these marshes are to the east, from whence blows the purest wind.

The fall of Lake Michigan, which takes place previously, that of the Lake of the Woods, Rain Lake, White Bear Lake, and numerous other small lakes to the west, and of the rivers Mississippi, Missouri, and Maumee, to the south-west, undoubtedly must be a far greater cause of impurity to the atmosphere, and of consequent sickness, than the trifling exposure of the shores of Lake Erie by a fall of six inches.

In addition to the miasmata arising from the exposure of these tracts of land, marshes, &c., and of the shores of lakes and rivers, the west and south-west winds are continually imbibing the exhalations of many hundreds of square miles, in their passage over a flat, marshy country, within the territory. These I consider to be the causes of the impurity of the west winds, of the fall of Lake Erie, and of sickness attending the fall of that lake. It is the opinion, I am aware, of many medical gentlemen, that marsh miasma does not extend its effects beyond a mile from its source; this undoubtedly is the case where the quantity exhaled is small; and in still less quantities it can only produce an effect at a proportionably shorter distance. And why should this be the case? simply because its effective property is lost by dilution with the atmosphere; there is nothing to combine with, and neutralize it; therefore I can conceive neither more nor less, than that the distance of its operative power may be small or great, according to the quantity exhaled in a given time. We know not that miasma has any sensible smell, but commonly we judge the atmosphere to be not very pure, where an offensive smell arises from the earth. This exists in certain seasons, in that section of the territory of which I am writing, and is conveyed across the head of Lake Erie into Canada, a distance of thirty miles.

The sickliest seasons are those most attended with west winds, and these of the most disagreeable nauseous smell: and what is remarkable, the same seasons are sickly in Canada, as far as these winds reach along the shore of the lake, and the severity of cases is in proportion to their approximation to the lake.

The climate is subject to occasional hurricanes, attended with thunder and lightning. At such times the wind blows from the west or south-west, for four-and-twenty or eight-and-forty hours, with such violence that thousands of trees are prostrated, some are torn up by the roots, some stripped of their branches, and the trunks of others completely twisted into a *withe.* At such times all domestic animals (as if sensible of their danger in the forest) flee for safety to the open grounds. These winds, if long continued, drive the waters from the head of Lake Erie, towards the outlet, doing great damage to harbors and shipping, by throwing up the waters to the height of three or four feet above their common level. When the rain abates, if the sun come out, and the winds continue, it is not uncommon to witness a singular phenomenon.

From a clear atmosphere, and bright sunshine, there will suddenly be a change, so as to obscure the sun, and even render objects invisible at the distance of a few rods, by a substance floating in the air, somewhat similar in appearance to the white oxide of zinc, in a state of minute division. Every attempt at collection, for examination, has proved abortive. This appearance will continue from two to six hours, and then disappear as suddenly as it became visible. Various conjectures and opinions have been formed concerning it, but I never have heard one advanced that could in any way be considered as unexceptionable. I shall refrain from giving an opinion, and rest upon the hope of an explanation from some of the philosophers of our country.

Meteors are much more common in this territory than in many parts of the Union, such as "shooting stars," "fire balls," "jack o' the lantern," and some other phenomena, depending upon the electric fluid.

A circumstance, illustrative of the insensible qualities of the atmosphere, is observed in the manufactory of potashes. A person engaged in this business, observed to me, that he obtained double the quantity of "salts" from his potash, since his residence in Michigan, than formerly in the state of New-York, and that he universally procured the most from the oldest ashes. He brought me a few ounces of dark reddish colored crystals, which rendered a live coal very brilliant, with a roaring noise. They were dissolved, purified, and recrystallized, after which, a portion was treated with concentrated sulphuric acid; it threw off an abundance of the fumes of nitrous acid; another portion was carefully subjected to heat, the residue proved to be potash. From their appearance, taste, and chemical results, I was satisfied of their being the nitrate of potash.

This salt does not exist in wood; it must then be formed by the direct union of the nitrogen of the atmosphere, with potash, as it exists in the ashes of wood; this being (according to some late discoveries and experimental results of Sir Humphrey Davy,) an oxide of potassium, already contains a sufficient quantity of oxygen to unite with a portion of nitrogen, and form the nitric acid required.

But why should ashes yield a greater proportion of nitre in the territory of Michigan, than in the state of New-York?

I was informed likewise that nitre can be formed in the common way, with much greater rapidity, and with less trouble, than in the eastern states. What should be the occasion of this? I can only account for the foregoing circumstances, with respect to the formation of the nitrate of potash, in this territory, by referring to the predominance of nitrogen in the atmosphere, as the sole cause. A circumstance which strengthens this opinion, is, the invigorating effect of the air in a potashery upon invalids.

Of twenty men, who had more or less followed the business of making potashes for years, not one of them could recollect witnessing, or even hearing, of a single case of intermittent fever in a person following this occupation; and some of them asserted, that they had known the fever and ague cured by working a week or two at boiling and melting potashes.

Here we perceive, from some invisible cause, an effect at once strange, and pleasing to the philosopher. The most probable explanation is to be sought for in the large quantity of ashes commonly kept in and about the house, which extracts the nitrogen from the air; by this means giving a predominance to the oxygen, in its local atmosphere, and rendering it more bracing and invigorating to the system. And also the volatilization of a portion of potash in what is popularly called melting, giving the air a stimulating property, which it does not possess in other situations.

It is possible that nitrogen may unite in the formation of the nitrate, at the time of boiling and melting; but the fact of old ashes giving a greater proportion than new, renders it extremely probable that the principal combination takes place previously.

I cannot refrain, at this time, from humbly suggesting the propriety and probable benefit of an experiment of this kind in our hospitals. We have seen the benefit derived by individuals from the atmosphere of a potashery; suppose five or six hundred bushels of good wood ashes were distributed in convenient receptacles through the different wards, why would not the same advantage be derived from its absorption of nitrogen? It certainly would render the local atmosphere more invigorating to the sick. Does the small portion of potash volatilized in the operation of melting, give to the air a stimulating property? If so, this can be had at pleasure; and be used in different wards, according to circumstances.

I should be very sanguine in my expectations of benefit, from what I have witnessed in as unhealthy a climate as any within the boundaries of the United States.

The principal sickness of this country, I have alleged, arises from the impurity of the atmosphere, occasioned by its admixture with miasmatic gases, and, as a point in illustration, I promised something relative to the Maumee Rapids. It has been for years observed, that the inhabitants above these rapids enjoyed much better health than those at the foot.

The Maumee river, from its source to its termination, flows smoothly and gently, with an imperceptible descent, through the very heart of a level, marshy country, which is very fertile and abundant in its productions, almost without a ripple on its surface, except what we call *the rapids*. These commence with a swift current, passing over a ledge of fetid limestone, about thirty-five miles above the head of Lake Erie. The water continues running with great velocity through whirling eddies, and over broken rocks and precipices, for eighteen miles.

At the distance of three miles below the foot of the rapids, stands the village of Maumee, or Fort Meigs. This village is within the present boundaries of the state of Ohio, the line of division between this state and the territory crossing the river six miles below.

The water here does not contain a third of the quantity of gas which can be obtained from it before it passes over the descent above; this I conceive to be good evidence of the liberation of a large quantity by the agitation it undergoes. The village before-mentioned is one of the most unhealthy spots to be found in the western country, while the inhabitants, only eighteen or twenty miles above, enjoy much better health. The cause is plain. The winds (as before described) being in the summer season very generally westward, carry the liberated poison immediately over this village, the south-east corner of the territory of Michigan, and even across the Maumee bay into Canada.

This instance is not singular; it is an old remark, that the vicinity of falls, rapids, &c., is unhealthy; and the more sluggish the stream, and marshy the country through which it passes, the more sickly is the neighborhood of any break in its waters.

This must be occasioned by something produced from the water by agitation, which may be either carburetted hydrogen, or hydrogen, or both.

It is very certain, that there *may* be a more subtle poison, which we cannot discover; but the great probability at present appears to be in favor of the above gases being the great cause of disease. It may be objected that no bad effects result from handling and breathing these gases in the laboratory; but it must be remembered, that in this case the gases are artificially formed, and may not be precisely what nature produces.

[*To be continued.*]

ART. VIII.—*Report of Cases in Surgery, which came under treatment at the* NEW-YORK HOSPITAL, *in the months of May and June*, 1830, *during the attendance of Prof.* A. H. STEVENS. *From notes taken by* ALFRED C. POST, M. D.

Amaurosis,	1
Anchylosis radii,	1
Abscessus,	1
" in perinœo,	1
" in poplite,	1
Bubo,	5
Contusio,	10
Collum curvatum,	1
Concussio cum vulnere capitis,	1
Erysipelas,	1
Exfoliatio cuticulæ,	1
Eruptio scorbutica,	1
Fistula in ano,	3
" urethra cum phymose,	1
Fractura vel dislocatio femoris,	1
" Ossis Brachii,	2
" " Radii,	1
" " Radii et ulnæ,	2
" " Ulnæ,	1
" " Femoris,	3
" " Cervicis femoris,	3
" " Fibulæ	1
" " Tibiæ (comp.),	1
" " Tibiæ et fibulæ,	1
Fractura dejungatâ,	1
Furunculus,	1
Gelatus,	1
Gonorrhœa,	2
Glandula submaxillaris increta,	1
Hernia inguinalis (strang.),	2
Hydarthrus,	2
Hydrocele,	1
Inflammatio manus a pice,	1
Iritis,	3
Jugulatus,	1
Lepra,	1
Lues venerea,	3
Luxatio ossis humeri,	1
" cum fractura tali,	1
" inveterata,	1
Necrosis femoris,	1
Ophthalmia,	1
" purulenta,	3
Psora inveterata,	1
Paronychia	1
Phymosis,	4
Retentio urinæ,	1

Rigiditas artus femoris a fractura,	1	Tumor inguinalis,	1
" artuum humeri et cubiti,	1		
		Ustio,	2
Stremma,	1	Ulcus,	12
Strictura urethræ,	1	" et excoriatio circa anum,	2
Scrofula,	1	" excavatum tonsillarum,	1
Tumefactio genu et tali,	1	Vulnus,	3
Tumor,	1	" manus,	1
" capitis,	1	" genu,	1
" palpepræ,	1		

CASE FIRST.

William Kenneday, aged 15 years, was admitted on the 28th April, 1830, with a wound of the knee-joint, occasioned by glass, seven days previously. The synovia escaped at the time of the accident. The knee had been poulticed, and twelve leeches applied.

April 28th.—Discharge from the wound thin and serous; considerable pain and fever. The poultices were continued; the leg flexed, and laid on its outer side. Anodyne at night, and seidlitz powders.

May 7th.—Much improved.

18*th.*—Has been dressed with simple cerate since last report, with the exception of one or two days, when the poultice was re-applied. A large portion of the wound has cicatrized. The leg becomes more and more flexed, and cannot be extended without pain.

19*th.*—Limb placed on an inclined plane.

June 7th.—Wound nearly healed. Tenderness of the thigh was now complained of, and deep seated abscesses formed in its course, which were evacuated by punctures two or three inches above the knee on both sides; after which, with the assistance of poultices and a third puncture, matters were conducted to an apparent favorable issue.

July 7th.—The patient was attacked with erysipelas, commencing at the punctures above the knee, extending to the toes, and upward to the lower part of the abdomen. Mild sudorifics were given, and the watery solution of opium was applied to the inflamed part. Blisters were also applied here, and on the margin of the sound skin.

21*st.*—Erysipelas was arrested.

August 1st.—A roller was applied around the limb, and a few days afterwards the patient began to walk on crutches. From this time his health rapidly improved.

CASE SECOND.

Joseph Cludy, aged 15 years, came into the hospital with white swelling of the knee joint, of several years standing. On the 15th May, the leg was amputated above the knee, by Dr. Stevens. Considerable suppuration took place from the stump, in consequence of a fall received upon it previous to the removal of the first dressings, which retarded the complete union until the 28th June.

CASE THIRD.

Patrick Feely was admitted on the 10th April, with white swelling of the knee, arising from cold taken during salivation. The thigh was amputated by Dr. Stevens, after the circular method, on the 25th of June, and on the removal of the first dressings, (June 30th,) the edges of the wound were found united throughout their whole extent; with the exception of a small opening at the inner angle, from which slight suppuration took place for two or three weeks before the wound was entirely cicatrized.

CASE FOURTH.—*Inguinal Hernia.*

Margaret Stroh, born in Germany, aged 40 years, was admitted into the hospital with a very small inguinal hernia, on the 4th June, 1830, at 4 P. M. The bowel had descended about seven years previously, during a violent effort, but had never increased in size, or occasioned any uneasiness, until the day of her admission, when it became strangulated at 8, A. M., whilst straining at stool. Previous to her admission, she had been bled to deliquium, when the taxis was attempted, but in vain. Afterwards she was placed in the warm bath, where she was kept for one hour and a quarter, when the taxis was again attempted, but to no purpose.

At 7 P. M. the operation was performed by Dr. Stevens. The small knuckle of intestine contained in the sac was of a dark purple color, but the circulation still continued in it. On dividing the stricture, it was easily reduced. An injection was administered soon after the operation, which brought away a small stool, consisting chiefly of scybalæ.

Ordered a wine-glass full of the following infusion every two hours.

℞. Sennæ }
Mannæ } āā ʒj.
Tamarind: Ind: ʒij.
Aq: Bullient: Oj.

5th, A. M.—The bowels have been freely evacuated; tenderness of the abdomen much diminished, pulse 80, appears very comfortable.

8th.—Wound dressed; its appearance healthy.

12th.—Wound nearly united.

26th.—Discharged, cured.

CASE FIFTH.—*Inguinal Hernia.*

Isaac Chase, seaman, aged 23 years, an athletic man of strong constitution; has had inguinal hernia about eigtheen months, which was brought on by straining. On the 18th May, 1830, while walking on one of the wharves, he was seized with bleeding at the nose, by which, he says, he lost a quart of blood. About 3¼ P. M. he was attacked with vomiting, which forced down an additional portion of intestine, which became strangulated. At 5 P. M. he was brought to the hospital. At this time the tumor was of the size of a quart measure, and exceedingly tense and unyielding. Pulse small, tense, and about 140. Tongue clean and moist. But little tenderness of the abdomen on pressure. He rolled himself about from side to side in exquisite agony. Venesection ad ℥xxx. Pulse somewhat reduced; pain for a time diminished, but soon returned with great violence. Ice was applied to the tumor, and kept on about two hours. Two enemata and a large dose of castor oil were given, without bringing away any fæces. At 8¼ P. M. an infusion of one drachm of tobacco in two gills of boiling water was injected into the rectum, but was immediately rejected. It, however, produced a marked effect on the pulse, and occasioned a general prostration of strength. The patient no longer rolled about in agony as before, but lay quiet and uncomplaining. A little after 9 P. M., it being judged improper to use violent efforts at reduction by the taxis, Dr. Stevens proceeded to the operation. When the sac was opened, it was found to contain two large knuckles of intestine, each about a foot in length. The stricture, which was at the anterior (external) ring, was incised to a small extent with a bistoury, and an effort then made to return the portion of intestine which had most recently come down. Some difficulty occurring, Dr. S. returned the portion which had been longest in the sac, and afterwards the other portion. The wound was closed by sutures and adhesive straps, and compresses of lint were applied over the ring, and secured by a T bandage. A clyster was administered, which brought away two liquid stools of a turbid red color, like the eccoprotic mixture, or the washings of meat, and containing small lumps of a fatty appearance.

℞. Sennæ
  Sulph: Magnesiæ āā ℥j.
  Aq. Bullient ℥xij.
  Cap: ℥ij. secunda quaque hora.

After he took the second dose, he vomited. To prevent the recurrence of the vomiting, a little supertartrate of potash and manna were added to the injection. Passed six or seven stools during the night, all resembling the one described above.

Wednesday, 19*th*, 7 *A. M.*—Complains of very little tenderness of the abdomen. Tongue slightly covered with a white fur. Pulse 140, small and tense. V. S. ad ℥xx—et hirudines xl. abdomini.

7 *P. M.*—Continues the same. V. S. ad ℥xx—cucurb: cruent: ij. abdomini. Pulse reduced by the venesection, and incipient syncope produced.

20*th*, 8 *A. M.*—Pulse 110. Tongue slightly yellow.

12 *M.*—A fæcal evacuation of a dark olive color, with small lumps of a fatty appearance, as before.

21*st.*—Has had a stool of nearly natural color during the night. Scrotum enlarges from infiltration.—Suspensory bandage.—Patient has slept well during the night—has an appetite this morning. Pulse 100; tongue as yesterday.

12 *M.*—Dressings removed, and new ones applied. Wound in a state of healthy suppuration.

6½ *P. M.*—Has been more comfortable this afternoon than at any time since the operation. Pulse 95, and more full; tongue covered with a thin white fur. No stool to-day. Hab: sulph: magnes: ℥j.

22*d.*—Has had several stools of a yellow color. Pulse about 90, and fuller than before.

23*d.*—Scrotum more tumid. In other respects the patient is doing well: has an appetite, but is allowed to eat nothing but gruel. Scrotum scarified, and an emollient poultice applied.

24*th.*—Swelling and hardness of scrotum diminished. Continue the cataplasm.—Wound has been dressed several times, and has a healthy appearance. In consequence of the tumefaction, it has become necessary to cut the sutures.

26*th.*—Two openings have formed in the scrotum, through which there is a discharge of purulent matter; the intervening portion of teguments has been divided by the bistoury.

27*th.*—Poultice discontinued; dry lint applied, and covered by simple cerate.

28*th.*—Erysipelas has appeared upon the lower part of the abdomen and upper part of the thighs; there is, however, but slight redness and tumefaction. Apply cloths wet with an infusion of opium ℥j in aq: bullient: Oj.

29*th.*—Continue the lotion.

31*st.*—The erysipelas has extended over almost the whole of the anterior part of the abdomen, and is extending over the spine and down the thighs. But little excitement of pulse. Tongue covered with a brown fur in the middle—clear at the edges. Apply evaporating lotion of the house, instead of the opiate infusion—a strip of cantharides plaster on the upper edge of the erysipelas.

June 1*st*.—Erysipelas still spreading in all directions; has crossed the line of the blister. Patient uneasy during the night,—more comfortable this morning. The pulse not accelerated; temperature of the skin, or sound-part, not much affected. Ordered the effervescing mixture every two hours.

2*d*.—Patient feels better than yesterday. Pulse somewhat stronger. The course of the erysipelas seems to be arrested; but in order to ascertain the fact, marked its boundaries with ink.

4*th*.—Erysipelas has extended in front about two inches above and below the marks made on the 2d; behind it has extended as high as the neck. On the abdomen, where it first appeared, its color is fading. For several days past, he has passed three or four liquid yellow stools daily, which he has not been able to retain, but discharges them on the first warning, and for the most part in bed. He sleeps with his eyes partly open; does not complain of much pain. Granulations on the surface of the wound somewhat paler than before; discharge of thick yellow pus, but diminished in quantity. Ordered to be dressed with resin ointment.

6*th*.—Erysipelas spreads on the extremities, but is fading on the trunk. Patient's strength increasing—general appearance improving. Aqua ammonia applied over the surface of the trunk and thighs. Boiled rice as nourishment was given, which he ate with a good appetite.

7*th*.—Had a profuse perspiration in the evening. Erysipelas rapidly declining.

8*th*, *A. M.*—Better than at any time since the appearance of the erysipelas.

8 *P. M.*—Attacked with chills, followed by high fever, and going off by sweat a little after midnight.

9*th*.—Does not appear quite so well to-day as yesterday, being somewhat exhausted by last night's attack of fever.

℞. Sulph: Quinine, gr. viij.
Tinct: Opii ℨss.
Syrup: ℥j. mis:
Cap: coch: pav. tertia quaque hora.

10*th*.—Has passed a comfortable night, and appears altogether better this morning. Has had but two or three stools this morning, and with full power of retaining them. Continue the quinine syrup. From this period he went on gradually improving, and on the 5th July was discharged, cured.

CASE SIXTH.

William Campbell, seaman, born in England, aged 50 years, was admitted on the 3d June, 1830. About a month before his admission he had eaten a portion of halibut's liver, which occasioned pain, nausea, vomiting, &c., together with severe head-ache. He remained sick for three days, when the cuticle began to exfoliate from the face, and has continued to do so successively from every part of the body. He still has some sickness at his stomach; pulse rather feeble; tongue foul; breath offensive.

June 5th.—Hab. pil. rhei gr. ij. ipecac. gr. ½ ter. in die. The first pill occasioned vomiting, by which he was in some measure relieved. Warm bath.

10th.—Has continued to take the pills, and has taken another warm bath. Is relieved of his sickness, and has a good appetite. The cuticle has not yet entirely separated from the extremities. Discharged.

CASE SEVENTH.

Charles Starkey, 17 years of age, was admitted on the 13th May, 1830. He had been shot two days before by a pocket pistol loaded with duck shot, which went off in his pantaloons pocket. The shot, together with the wadding, and a portion of his clothes, entered his side just below the last rib, and passed obliquely downwards and inwards. Several of the shot, and some of the wadding and clothes, were afterwards extracted from the wound. For a few days after admission, poultices were applied to the wound, and it was afterwards dressed with simple ointment. He has taken no medicine. The treatment consisted in rest, and almost entire abstinence from food. No constitutional derangement, nor any unpleasant symptom, occurred.

June 1st.—Discharged, cured.

CASE EIGHTH.

William Baker, born in England, aged 39 years, was admitted on the 27th October, 1829, with luxation of the shoulder joint, occasioned by a fall from a height of about twenty feet, twenty-seven days previous to his admission. Three days after his admission, the luxation was reduced by means of pullies. Since the reduction, he has had paralysis of the muscles of the fore-arm, for which blisters, stimulating liniments, &c. were applied without benefit.

About the 1st of May, 1830, several moxas were applied on the anterior part of the fore-arm and lower part of the arm; a few days afterwards, two more were burnt, and three others after four or five days interval. Of these last three, one was dressed with simple cerate, another with basilicon, and the third with a mixture of equal parts of basilicon and oil of origanum. The one which was dressed with simple cerate healed first, that with basilicon and oil of origanum last. The patient took strychnine for several weeks internally, in doses of a quarter of a grain three times a day: afterwards one grain was sprinkled on the sores twice a day. The strychnine did not appear to produce any effect. Since the application of the moxas, the patient has acquired considerable use of his hand, so that now (June 19th) he can lift fifty or sixty pounds weight with it.

June 30*th*.—Discharged, the use of his arm being so far restored that he was able to carry a pail of water to a considerable distance.

CASE NINTH.

Isaac Meeker, born in New-York, aged 16 years, was admitted June 15th, 1830.. His arms, back and shoulders, are covered with large leprous scabs, which leave the skin beneath sound when they drop off spontaneously, but when taken off prematurely, leave an ulcerated surface. These incrustations have covered every part of the body, and irregular cicatrices show where they have previously existed. This scaly eruption commenced about three years ago on the fore-arm and on the head, and thence spread to other parts of the body. It began in the autumn, when he was recovering from an attack of quinsy, in the treatment of which he had taken mercury to salivation. The remedies which he has used for the eruption, have been sulphur, and a variety of vegetable dococtions. The eruption is now less diffused, and the constitutional debility less, according to the patient's account, than at at any previous time since the disease first made its appearance.

Cap: solut: Fowler gtt. iv. ter. in die.

17*th*.—Emollient poultices applied to the arms—scabs removed. The patient complains of great weakness and irritation. Says he has always felt worse when poultices have been applied, or when the scabs have been prematurely removed. Let the following lotion be applied to the sores.

℞. Solut: arsenicalis ʒij.
Aq: font: ℥viij ℳ.

28*th*.—The patient has improved more rapidly since he has been in the hospital than he has done within any similar period from the commencement of his disease.

Aug. 6*th.*—Attacked with erysipelas, commencing in the left arm, and extending within a few days over a large part of his back, and finally arrested by a blister applied along its margin. Three or four days after this attack, he lay in a semi-comatose state, scarcely speaking, moving, or taking any notice of objects around him. Mind wandering—distressed with gloomy thoughts. Pulse feeble, but somewhat excited; hot skin; sensation of weakness and faintness in the stomach—no desire for food, and scarcely any for drink—bowels costive, requiring laxatives.

16*th.*—Erysipelas fading away. Health improving. Mind evidently deranged, and continued so till the time of his discharge on 1st October. There still remained some of the leprous sores which were not healed.

CASE TENTH.

William Davis, born in Maryland, aged 39 years, was admitted June 8th, 1830. His neck is bent forwards, so that the chin almost touches the breast. He can sometimes extend his neck to a straight position, but the effort is painful, and the head soon falls forwards. The spinous process of the fifth cervical vertebra is prominent. The injury was occasioned by a fall into the hatchway of a vessel at New-Orleans on the 25th March last.

Cucurb: Cruent: ad Nuch: et Emp: Epispast ad Nuch:

June 28*th.*—Immediately after the first cupping, the head became more erect, and the patient has continued to gain power over its motions. Cupping and blistering were repeated several times with evident benefit, but the head did not become entirely erect.

[In giving place to the foregoing, the Editors feel a pleasure in expressing their hopes, that each of the future numbers of this Journal will contain a continuation of these reports. The practical importance of such papers must be evident to every medical man; for it is in public Hospitals that the rarer forms of disease are most frequently met with; and it is from the internal regulations of such institutions, that the sick are so far controlled, that those extraneous causes are seldom met with, which interfere with the private practice of the physician, and not unfrequently give an unnatural character to the complaints of his patients. Experienced physicians, good nursing, careful regimen, and a ready attendance, are all circumstances, which must give a confidence to the faithful reports of Hospital cases.

Besides, the practical importance of different therapeutical agents, and medical and surgical modes of treatment, may be more freely tested here, than where, in other situations, he would hesitate to use the first, or pursue the latter. Not that we would, by any means, recommend, or even most distantly countenance, doubtful experiment for idle gratification; humanity forbids this; but there is an experience, which every physician well knows, can only be gained under certain circumstances: where his professional liberty is under no control, where consequences not anticipated, may be immediately counteracted, effects watched, and the mistaken indulgence of friends, cannot prove a hinderance to his practice, or add to his anxieties. These are things of vast importance, in investigating the nature of diseases, and the peculiar properties, and comparative value of medical remedies. It is from the possession of such advantages, that the profession expect from the medical attendants of public institutions, some return for the endowments, which have been so liberally made by the state and municipal authorities. Certainly these reasonable expectations should no longer be disappointed; and we trust that the accompanying register will prove to be a presage of a continuance of these useful papers. Professors Stevens and Mott, and Doctors Watts and Moore, have heretofore given the medical public occasional reports of cases, from the New-York Hospital. From this, and the Bellevue Hospitals, two public Dispensaries, and the Bloomingdale Asylum, what a mass of practical knowledge might be periodically disseminated. And yet, when we look at what has, or rather what has not, been done, we fear that the ardor of professional ambition is but little felt, that all enthusiasm has been frittered away in the pursuit of individual aggrandizement, or unprofitable disputes. We look for better things. We hope to see the physicians of our public medical institutions stimulated from their lethargy, by a desire to *prove* themselves worthy of their responsible, and interesting situations. Let it no longer be said, that, with some few exceptions, we have no means of evincing, that the medical departments of our Hospitals, Dispensaries, and Asylums, are conducted with a talent and skill, equal to that of our neighbors, or similar foreign establishments. Pride and patriotism should make us aspire to such results,—results, as certain of giving reputation to the individuals, as of being honorable to our city.] ED.

REVIEW.

ART. I. *Observations on the Blood.* By WILLIAM STEVENS, M. D., &c. Read at the Royal College of Physicians, May 3d, 1830. London, 8vo.

EXCLUSIVE systems have long since lost their attractions for the great body of enlightened physicians—a certain evidence of the improved condition of the profession, and the triumphant result of the great increase, the wide diffusion, and the rapid circulation of knowledge. It is over minds, limited in their acquirements, and inclined, by that very limitation, to exaggerate, and attach undue importance to few and isolated observations, and to embrace with avidity every fanciful speculation which ingenuity can invent, or the love of novelty suggest, that partial hypotheses, and chemical doctrines, exercise the most unbounded influence.

> "Quicquid delirant reges, plectuntur Achivi."

As the resources of the intellect are enlarged, it acquires vigor and comprehensiveness in its operations; and, rejecting all hasty and rash conclusions, embraces in its grasp the greatest possible multiplicity of facts, before it attempts their generalization. By pursuing this cautious method of induction, the cultivators of the physical sciences have made the most wonderful strides towards their perfection; and by a similar course alone, can principles in medicine ever be fixed on a firm and immutable basis. The past history of the art holds out, indeed, little encouragement for favorable anticipations of the future, and seems to lend confirmation to the prevailing opinion, that it will ever continue to be unstable in its doctrines. But is the reasoning founded on this inference altogether just? We conceive not. The circumstances under which medical, like other scientific investigations, have been hitherto pursued, are materially changed. The regular and systematic plans, upon which not only the exact sciences, but also those connected with the moral and intellectual faculties, are cultivated, the augmented number of scientific laborers, the more general acquaintance with the just rules of logic—and, finally, the permanency and diffusion, bestowed upon even the most limited exertions of individual industry and speculation, by the press;—these present an infallible security against the recurrence of those revolutions and vicissitudes, in the state of the profession, which have hitherto rendered it the sport of wit and scepticism.

It is, in our opinion, no slight proof of the progressive career of improvement, which our science is henceforth destined to run, that the attention of the profession is once more seriously directed to inquiries into the state of the fluids in disease.

Coeval with medicine, and identified with it by Hippocrates and Galen, the humoral pathology continued to impress the very form of every successive theory adopted in the schools to explain the mysterious agency of disease on the human body, until Hoffman, Cullen, Brown, Darwin, and Rush, indignantly ejected it altogether from their systems. Nor is the self-styled physiological reformer more favorably inclined towards this ancient doctrine. Even the profound Pinel, whose philosophical nosography will remain as an enduring monument of accurate clinical observation, ingenious, if not perfect classification, extensive erudition and classical purity of diction, must be ranked amongt the exclusive solidists. It is not surprising, therefore, that the profession in general should have bowed to the imposing authority of genius, or that it should require the combined operation of the powerful causes before enumerated, to disenthral their minds. A few eclectic and philosophical writers did indeed still continue to regard the fluids, as forming part of the diseased, no less than the healthy, human frame; and it is truly gratifying to be able to oppose to the name of Pinel that of Bichat. Unbiassed by any system, save that of nature herself, and possessing the most acute sagacity, his powerful mind could not fail to recognise and acknowledge the fact, that, although their influence had been overrated, the fluids do, in a great number of instances, undergo alteration, and furnish indications for treatment.* He was thus led to reject both exclusive solidism and humoralism, as a pathological no less than a physiological solecism.

In this country, solidism has been a favorite theme in our schools, with the exception of that in our city. Both the former and present incumbents of the chair of practice of physic, have directed the attention of pupils to the occasional affection of the fluids in disease: the former, with, perhaps, an inordinate zeal, and to an extent not fully warranted by the state of our knowledge; but it must be confessed with much eloquent ingenuity, and very happy practical applications.* Eberle and Dyckman should not be overlooked, as having proved able champions of a limited humoral pathology.

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* Anatomie Generale. Tom. I. p. 256.

Among the writers in Great Britain who have latterly embarked in the cause of the fluids, Dr. Stoker, of Dublin, deserves an eminent station. His views have been rendered so familiar, as to require no exposition. There are others entitled to attention, but we shall at the present time introduce two only, whose original notions respecting the state of the fluids, and more especially the blood, in febrile affections, have scarcely yet been made known in this country. We refer to Dr. Reid Clanny, of Sunderland, and to the author of the observations now under review. The former published a lecture about two years since, which he had previously delivered at the Sunderland Infirmary, on the composition of the blood in typhus fever; and on the light which his analytical researches throw on the nature or *proximate* cause of fever generally. By some invidious critics in England, it has been hinted that Dr. Stevens adopted his peculiar views at the suggestion of those of Dr. Clanny. This ungenerous supposition is entirely put at rest, by the fact, of which we have the highest official evidence, that Dr. Stevens not only adopted his present theory, but acted upon it, in practice, in the West Indies, several years since, and for a considerable period before the appearance of Dr. Clanny's paper. An exposition of their respective doctrines will further tend to prove their disconnection with, and independence of each other. This we shall now proceed to lay before our readers, after indulging in a few preliminary remarks, on what is known and established respecting the diseased condition of the fluids in the human body.

With the exception of a few—a very few, bigoted solidists, it is now pretty generally admitted, that the fluids may, and do often, become affected in disease. It is still a disputed point, whether they are ever so primarily; and the opinion of the great majority of physicians, is undoubtedly against such an occurrence. Passing over this vexed ground, it is important to ascertain how they are altered in their condition—in their quality, no less than their quantity.

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* Hosack's Medical Essays. Vol. I.

The fluids then may undergo alteration, either in consequence of a change in the action of the organ or organs which produce them, or of a vitiation of the materials out of which they are originally formed. Neither of these morbid effects can, for a moment, be disputed by those acquainted with the state of the body, and of its secretions in disease. In the second case, the materials introduced into the fluid may be derived either from without or from within, and the vitiation may likewise consist, either in a simply imperfect condition of the fluid, or in the super-addition of foreign and deleterious substances. Thus, alimentary matters may penetrate with the chyle into the blood, without having undergone a proper assimilation, and still preserving their distinct qualities; and once introduced in this manner, they must, of necessity, affect the properties and quality of both the solids and other fluids, with which they come in contact, or in whose composition they assist. It has, indeed, been denied, with no little degree of boldness and ingenious assumption, by one of the most eloquent and exclusive solidists of the present day, that any substances can, by possibility, enter the circulation. But this denial has long since been so triumphantly set aside, that to maintain it in the present advancement of medical science, savours either of wilful ignorance, or of blind prejudice.* The sources whence these foreign substances are derived, are extensive,—the gastric mucous membrane, acted on by all the ingesta; the respiratory passages, exposed to all the various impressions of the atmosphere, in all its different states of gravity, density, electrical condition, and impregnation with foreign substances; the skin obnoxious to endless external contaminations; and, finally, all their internal absorbing cavities. Thus numerous foreign materials may enter the circulating fluids, and cause in them important alterations. Examples without number might be adduced of the changes derived from each of the above sources, but they will readily and obviously suggest themselves to the well-informed reader. The other mode of change in the fluids, is simply their imperfect condition, in consequence of the materials out of which they are formed, being depraved. The opinion of the solidists to the contrary notwithstanding, it is certain, that independently of the action of the digestive or secreting organs, the composition of the fluids, say of the blood, must be affected more or less by the quality of the materials, which combine in its formation; so that a wholesome diet will more readily furnish pure chyle, and pure chyle be converted into more perfect and healthy blood, than unwholesome diet and impure chyle. It is, probably, in this latter point of view, that the fluids become deranged in febrile affections; and it is to ascertain, in what this derangement consists, what are its causes, and what the best means for its removal, that Drs. Clanny and Stevens have chiefly labored. The result of their attempts, by no means yet completed, shall now be briefly stated.

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* Chapman's Therapeutics, vol. I. For a complete refutation of this able writer's chimerical doctrines on this point, see Review in 1st volume of the New-York Medical and Physical Journal. Also, J. B. BECK's notes to Murray's Materia Medica.

According to Dr. Clanny, the watery part of the blood increases in proportion during the progress of continued fever, while the proportion of each of the solid parts diminishes; and when the crisis has taken place, the opposite change commences, so that ere long the blood returns to its former condition. Dividing the period of an ordinary case of mild typhus, or synochus fever, into three stages of six days each, the first being the stage of increase, the second that of formation, the third that of declension,—he says he has found, from the average of many experiments, the following to be the proportions of the chief principles in a thousand parts of blood at the close of each stage.

	In Health.	1st Stage.	2d Stage.	3d Stage.
Water, - -	678	729	772	732
Colouring Princ.	160	136	122	130
Albumen, - -	121	98	75	101
Fibrin, - -	28	25	22	26
Salts, - - -	13	12	9	11

From this table, it appears that all the animal principles, as well as the salts of the blood, decrease materially in quantity as the fever advances, and increase again as it recedes; and the author farther alleges, that the same changes do not occur in other febrile disorders.

Another change, which he says he has detected, is a diminution in the quantity of carbonic acid contained in the blood. In health, blood contains, according to his experiments, a sixteenth of its volume of that gas. In the advanced stage of unfavorable cases of typhus, it does not contain any; and in the intermediate periods, the proportion is found to decrease gradually, but he does not mention in what ratio.

Dr. Clanny infers from these premises, that contagious fever is in essence nothing else than a stoppage of the process of sanguification; and he supports this view by some ingenious arguments drawn from the features of the fever itself, and from the phenomena of analogous diseases. We are not quite prepared to pronounce his premises false; but our own observations certainly lead us to suspect as much. With regard to the diminution of the carbonic acid in the blood during the progress of fever, we must recal the author's attention to the late explicit denial by Dr. John Davy of the statements of Mr. Brande, Dr. Scudamore, and others, as to the presence of *any* free carbonic acid in ordinary circumstances. Dr. Davy could not find it. We have repeated his experiments, with the same result, and believe we have also discovered where Brande, Scudamore, and Dr. Clanny, found *their* carbonic acid.' But even although Dr. Clanny's analysis of the blood in fever should prove correct, that is merely a condition necessary to the existence,—and not evidence of the validity,—of his theory of the nature of fever; for in imputing the febrile symptoms to the absence of sanguification, he commits the very error with which he has charged such theorists as Clutterbuck and Broussais; namely, he mistakes the effect for the cause. If inflammation prevails during life in the head or abdominal viscera, and leaves traces of its ravages in the dead body, that is no proof of local inflammation being the cause of the general fever. In like manner, if a starving of the blood occurs during fever, all the functions of assimilation being suspended, that fact certainly is no proof of the starved blood being the cause, and not the effect of the disease.

For the above brief exposition of Dr. Clanny's views, we are indebted to the Edinburgh Medical and Surgical Journal.

We now proceed to examine the observations of Dr. Stevens. This gentleman long since distinguished himself as a surgeon, by his bold and original successful operation for tying up the internal iliac artery. The success and accuracy of the operation having been incidentally questioned by Mr. Lawrence in one of his lectures, the operator was fortunately enabled to exhibit the utter futility of all doubt upon the subject, by an exposition of the morbid specimen, removed on the death of the patient, several years after the operation. Not satisfied with his well-earned distinction as an operator, he was led, by a mind naturally ardent and inquisitive, and well qualified by education, to prosecute medical inquiries. Living in the tropics, and enjoying the advantages of a large public and private practice in the Danish Islands, which have so long been the entrepôts of commerce in the Caribbean Sea, he was invited especially to study the nature and causes of the endemic and epidemic fever of those climes. The result of his investigations will, we are given to understand, be engrossed in a distinct volume, which will be published as soon as circumstances permit. In the interim, the novelty of certain ideas advanced by the author, in relation to the changes which he first observed to occur in the blood of those who died from yellow fever, and which ideas he advanced in a memoir before the Royal College of Physicians of London,—led to the present publication.

The author thus enters on his theme:—

> "There is sometimes met with in the West Indies, a malignant form of the yellow fever, in which, from the beginning to the end, it is evident from the symptoms, that there is, during life, little or no affection of the solids; and, often after death, even the most able anatomist cannot detect any trace of disease, either in the brain, the stomach, the intestines, or any of those organs, whose derangements are generally supposed to be the cause of fever. In those fatal cases, there is no excitement in the commencement sufficient to injure the solids, and we can only ascertain the real cause of death, when we open the heart, and examine the state of the once vital fluid. The cause of death then becomes evident; for we find there, in place of blood, a dissolved fluid, nearly as thin as water, almost as black as ink, and evidently so diseased, as to be totally incapable of either stimulating the heart, or supporting life. In both cavities of the heart, the fluid is equally black, and in the whole vascular system, all distinction between arterial and venous blood is entirely lost."

The occurrence of these cases first induced Dr. Stevens to form the very just and natural inference, that in fever the influence of the nervous system had been greatly overrated, and that the blood was more, and the solids less affected, than is generally believed. He thenceforth paid more attention to the appearances of the blood, and made experiments with it which led to his present views of febrile affection.

These views shall be now developed in the author's own words.

> "On examining, soon after death, the black and dissolved blood that had been taken from the heart of those who had died of the yellow fever, it was very evident, even at first sight, that several great changes had taken place.
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> "1st. The blood was more fluid than natural, partly from an excess of serum, probably produced by a stoppage of the secretions, and the retention of those fluids in the system, which ought to have

been thrown out by the secreting organs; but independently of this, in these violent continued fevers, as little nourishment is used, the fibrin or solid part does not appear to be formed in its usual quantity, and perhaps also, it is exhausted faster than in health, in supporting the high and continued excessive heat, that is so great in the commencement of the inflammatory form of that fever. In the first stage of the disease, the structure of the red globules is frequently deranged, which is evident from the fact, that in those fevers, the coloring matter is often detached from the globules, and dissolved in the serum, giving to that part of the blood, when it separates from the fibrin, a bright scarlet color, and this coloring matter cannot be separated from the serum, either by filtration, or any other mechanical means; but as the disease advances, this red color is lost, and the whole circulating current becomes black, and so thin, that it has no longer any resemblance to the blood of health.

"2d. The color of the whole mass of blood, both in the arteries and veins, was changed from its natural scarlet or modena red to a dark black. I have frequently filled one glass with the black fluid taken from the heart, and another with the black vomit taken from the stomach. They were both so unlike the blood of health, and resembled each other so completely, that it was almost impossible to distinguish the one from the other, and from its appearance it was very evident, that such diseased blood could no more stimulate the heart, or support life in the solids, than putrid water can nourish vegetables, or carbonic acid gas support respiration.

"3d. In violent continued fevers, the saline matter, like the fibrin, appears to be exhausted faster than it enters the circulation; the blood soon loses a great proportion of its saline impregnation, it loses entirely its saline taste, and we shall afterwards see that the black color is a certain proof of the entire loss, or at least, of the great diminution of the saline matter.

"4th. The blood, though dissolved, was not yet putrid, for the blood is so essential to life, that putrefaction of this fluid cannot exist in a living body. But dissolution is the first step towards putrefaction; and, when this to a certain degree takes place, death of all the solids must follow. I may here add, that this dissolved state of the vital fluid was the cause, and not the effect of death; for I have sometimes seen the blood, even previously to death, both black and so thin, that it could scarcely be retained within the vessels; and occasionally it has been observed oozing from the tongue, the eyes, the skin, and other surfaces, where there was not even the slightest lesion."

The next object, after ascertaining the important fact, that the dissolved state of the blood was the cause, and not the effect of death, but that in relation to the disease, it stood in an inverse relation, was to discover some agent capable of preventing this change in the circulating fluid.

After some general remarks on the antiseptic properties of saline substances, Dr. Stevens thus proceeds:

"Saline matter is also invariably found in healthy blood, and the presence of this seems actually necessary to its healthy state; for, when it is lost in disease, the vital fluid goes fast to decay. As this saline matter was lost, or greatly diminished, in the blood that had been dissolved in bad fever, and as the loss of this was probably the chief cause of the mortality, I was induced to try the effects of the saline medicines in preventing the bad symptoms that are so generally met with in the fevers of hot climates; and, after having used several of the saline medicines in a great number of cases, I was completely convinced that those agents had, when used at a proper period of the disease, a specific effect in preventing the dissolution of the blood. In all the cases in which they were timely and properly administered, they prevented the bad fœtor in the breath, the stoppage of the secretions, the yellow color in the skin, the black vomit, and the other fatal symptoms which were so common in those cases, when these medicines were not used.

"After having often witnessed the specific effects of the saline medicines, in preventing the mortality in bad fevers, and recollecting that several of the neutral salts enter the circulation without undergoing any decomposition in transitu, I was induced to try what effects these agents would have, when mixed with the blood itself, while it was still warm and fluid, and just drawn from the system. I was in some degree prepared for the result of these experiments, from having so often seen the powerful effects of these medicines, in remedying the diseased state of the blood, even in the most aggravated forms of bad fever."

The property possessed by saline substances, to impart a rich arterial color to venous blood, is next adverted to. This has not been known before. To ascertain the various effects of different agents on the blood, he made a number of experiments, which resulted in the following facts.

"1st. That all the acids give a dark color to the coloring matter of healthy blood; and in proportion to their strength, they change the color from red to black, as certainly as they change vegetable colors from blue to red. When any one of the acids was diffused in a little water, and then mixed with the fluid blood, the color of the whole was immediately changed from red to black. Even the vegetable acids so completely blackened the blood, that the addition of a little water converted the whole into a fluid exactly resembling the black vomit.

"2d. The pure alkalies have a similar effect with the acids in changing the colour of the blood from red to black, though not in the same degree.

"3d. The neutral salts immediately changed the venous blood from a dark modena red to a bright arterial color. Even those salts that contain a slight excess of alkali, the subcarbonate of soda for example, immediately give to venous blood a beautiful bright arterial color.*

"4th. When the neutral salts were mixed with the dark and dissolved blood that had been taken from the heart of those who died of the yellow fever, even this black and dissolved fluid was immediately changed from black to a bright arterial color."

Of the effects produced by this saline impregnation on the blood, the author intends treating minutely hereafter, when he will endeavor to prove—

"First, that the blood owes its red color to this saline impregnation. Black appears to be the natural color of the coloring matter; for, when we take a clot of blood, and deprive it completely of its saline matter, by immersing it in fresh water, the coloring matter soon becomes so black, that even oxygen has no effect in changing its color. But when we immerse this black clot in an artificial serum, made by dissolving some saline matter in water, the black clot in this clear fluid assumes almost immediately a beautiful bright arterial color. Secondly, that to this saline matter, the fibrin owes its fluidity, for it remains fluid only while mixed with the saline matter, and becomes solid when the saline matter leaves it to unite with the serum. Thirdly, that the change of form which this saline matter undergoes, when the blood changes from arterial to venous, and from venous to arterial, changes its capacity for caloric, and gives it an influence in supporting the temperature of the system. The saline impregnation also adds to the stimulating quality of the blood, and assists, even in a high temperature, in adding to its power of self-preservation."

The following concluding positions are deduced from the foregoing; and deserve attention.

"1st. That in violent continued fevers, even where proper means are used to protect the organs, by reducing the excitement, chemical changes often take place in the whole circulating current; and in these fevers, these changes are almost always the sole cause of the mortality. In proportion as the disease advances, the blood loses its solid part, and becomes thin; it loses its saline matter, and becomes both black and vapid; it loses its preservative power, and goes fast to decay; it loses its vitality, and in a short period becomes totally incapable of either stimulating the heart, or supporting life. The degree, to which these changes take place, is in proportion to the malignancy of the disease. In the yellow fever, in the African typhus,* in the plague, &c., dissolution of the blood is a common cause of death. The typhus of cold countries is, comparatively speaking, a mild disease; but even in the common typhus similar changes take place in the blood, though in a less degree. This has been clearly proved by the important experiments of Dr. Reid Clanny, of Sunderland.

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* The effects of these experiments are best seen when they are made on healthy blood; the agents ought first to be dissolved in a little soft water, and then well mixed with the warm blood before it begins to coagulate.

"2d. In all cases of bad fever, the loss of the saline, or preservative power, appears to be, in every instance, the chief cause of the entire dissolution of the vital fluid.

"3d. Where proper means are used to protect the organs from the increased excitement during the early stage of the disease, and after the excitement is sufficiently reduced, when proper nourishment is given, and certain saline medicines are timely and judiciously used, the bad symptoms are generally prevented. When proper saline medicines are used, they do not fret the stomach, they act on the intestines as much as is necessary, they keep up all the secretions, particularly that of the kidneys, and enough is absorbed to enter the circulation, and prevent the dissolution of the blood, and preserve it until the fever abates, and all the danger is past. This I am warranted to state as a fact, inasmuch as this treatment was commenced in the West Indies, in 1827; and since then it has stood the test in several hundred cases of the West India fevers, where it has been tried both by myself and others, and with scarcely a single loss, when we were called to the patients within the first twenty-four hours after the attack, and with very few deaths, where we were called in previously to the commencement of the fatal symptoms."

The success of this practice has been confirmed by Dr. George William Stedman and others of St. Thomas, as well as by Dr. Greatrex of Trinidad, who has charge of a military hospital in that island, at a time when there was considerable sickness in the garrison. Dr. G. states, that out of three hundred and forty cases of essential fever, treated in the manner described, not one had died; although Trinidad is generally considered to be one of the most sickly islands in the West Indies. With the following practical remarks, we must conclude our extracts.

"It can be clearly proved, that in the West India fevers, these patients that are left entirely to themselves, have a much better chance of recovery, than those who are treated with emetics, calomel, or antimony, opium or acids; and that these remedies, instead of being useful, add greatly to the sufferings of the patients: they decidedly increase the very evils that they are meant to relieve, and add greatly to the mortality in hot climates.

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* Or the Bulam fever of Chisholm.

"It is, I believe, an error to consider fever as entirely a disease of the solids, and still more so to treat it solely with a reference to the mere state of excitement; at least this much is certain, that those, who attend only to the solids and the mere excitement, can never cure even one case of the yellow fever that is really severe. Such cases can only be treated with success, when we reduce, by active treatment, the increased excitement in the commencement, and then prevent, by chemical means, those chemical changes in the blood, which are, in reality, the source of the diseased action in the solids, and the true cause of the mortality in these fatal fevers. After having seen much to convince me that this is the fact, I adopted a mode of treatment widely different from that which I had formerly used; and, in as far as it has yet gone, the use of the Rochelle salt, the carbonate of soda, and other active saline medicines, at a proper period of the disease, has been attended with a run of success, to which the mere solidists can produce no parallel; and, having so often seen this mode of treatment fairly put to the test, I am induced to believe, that if this practice is generally adopted, the mortality from fever in hot climates will be greatly lessened."

The opinions of Dr. Stevens, it will be perceived, are novel, though they will, by many, be condemned as bold, and savoring in part of antiquated notions revived. But the assistance of animal chemistry, to which the author has not feared to recur as a test of the soundness of his views, is an argument which former humoral pathologists wanted. We shall anxiously expect the appearance of Dr. Stevens' work, and have, in the mean time, furnished our readers with the present programme, or avant courier, to incite their curiosity, and stimulate their inquiries on the interesting theme. We feel confident, that when his theory is fully developed, and his facts and experiments stated at large, they will confirm the high anticipations we have formed, and prove him to be a man of the highest order of intellect.

Art. II. 1. *A Treatise on Surgical Anatomy, or the Anatomy of Regions, considered in its relations with Surgery, representing the principal regions of the body.* By Alf. A. L. M. Velpeau. Translated from the French, by John W. Sterling, M. D. &c.

2. *Traité d'Anatomie Topographique, ou Anatomie des Régions du Corps Humain, considérée spécialement dans ses Rapports avec la Chirurgie et la Médecine Opératoire.* Par Ph. Fred. Blandin, Professeur particulier d'Anatomie, &c. &c. Paris, pp. 690, 8vo.

3. *A Manual of Surgical Anatomy, containing a minute description of the parts concerned in Operative Surgery.* By M. H. Edwards. Translated by William Coulson.

4. *The Surgical Anatomy of the Arteries of the Human Body.* By Robert Harrison, A. M. M. D. T. C. D., &c. &c.

5. *Surgical Anatomy of the Arteries; with plates and illustrations.* By Nathan R. Smith, M. D., Professor of Surgery in the University of Maryland, and one of the Surgeons of the Baltimore Infirmary.

The cultivation of the higher departments of Anatomy, is a subject of just gratulation, especially to the profession in this country, where it has already attracted public attention, and will, undoubtedly, receive that consideration its high claims merit. It has always been urged against the study of anatomy, that it is dry, and wants that association, which gives interest to every other department of medical science. It is very true, that mere elementary anatomy is too insulated to attract, and, therefore, becomes an abstract subject, which, to the present spirit of the age, must necessarily offer little interest. The character of the age is decidedly practical, and we find every where metaphysical inquiries disappearing before practical science. The wants of mankind press steadily to this result, and, while we must lament the declension of abstract intellectual science, we cannot but rejoice, that physical sciences are assuming their just rank.

We are urged to the pursuit of the higher branches of anatomy, by many important considerations. First, to counteract the tendency which now leads from the contemplation of objects purely material, to opinions of a sceptical nature. The philosopher beholds, in the works of creation, a never-ceasing theme of study and reflection. If he directs his attention to the numerous objects upon the earth, he is arrested at every step, or if he views the glowing fires which adorn the heavens, he insensibly feels the immeasurable distance between his own intellect, and the capacity which could produce such wonders. To a mind imperfectly observant of these phenomena, such impressions are never added. The earth, which performs her revolutions with the same precision year after year, excites less surprise than the ingenuity of man; and the operation of an immaterial spirit upon a sensible body, from its frequency, becomes scarcely an object of notice, much less of admiration. It is only, then, by carrying out our knowledge to the connexion which subsists between the wonders of our mechanism, and the power which could form it, that we are preserved from the dangers of infidelity. The elements of the study demand nothing more than our reason; its combinations require something beyond it. Besides, we shall make reason the test of our belief, which will, in many instances, lead us to deny conclusions, because they do not come under the sphere of its attraction.

Secondly, we are led to this subject, because the interest of our science is immediately connected with it. The opinion is generally prevalent, that Anatomy is not necessary to the physician, and only partially to the surgeon. Is it possible to wrest our profession from the hands of empiricism, when such doctrines are openly avowed? Is the structure of a part,—its function in health and disease, of no importance? What benefit have the labors of Bichat conferred on medical science? and what does all the labor of the French philosophers promote? Do not the doctrines of Brown and Cullen, hover over us, to darken all medical inquiries, and intercept the light which morbid anatomy causes to shine upon us? It is in vain to lament, that medicine refuses the same philosophy which Bacon impressed upon other sciences. Where are our axioms, except they be found upon the dead body? We may bring the learning of Hippocrates to aid our observations, or repose under the huge tomes of Celsus or Galen, but if we do not inspect the volume where are written the errors of our judgments, the feebleness of our diagnosis, and the imperfection of remedies, the world will be amazed with the vacillating condition of our science,—will conceive itself authorized to interfere in our discussions, and furnish us with some common sense, which the heat of controversy, from fanciful theories always making men more obstinate, dispenses with, as unnecessary and idle.

It is, then, with unmingled satisfaction, we turn to the inspection of such works as are now before us. We shall examine the subjects of which they treat separately, that the interest they claim, may not be divided. The works of Blandin, Velpeau, and Edwards, are upon topographical anatomy;

Harrison, and Smith, upon the surgical anatomy of the arteries.

The history of topographical anatomy, or as it is most improperly called, surgical anatomy, is very imperfect. Winslow appears to have been aware of the necessity of studying anatomy in divisions, for in his preface, he says: These two tables seem to me of very great use in the practice of rhyne and surgery, by teaching, in a moment, those who have not been accustomed to dissections, to how many several bones, a wounded or disordered muscle is connected; and, likewise, with how many muscles a luxated, fractured, or otherwise disordered bone, is connected, especially when, for want of time or patience, they have not an opportunity of examining the whole description of the bone or muscle concerned. It is true, that Palfin, teacher of anatomy at Ghent, wrote a work expressly for the surgeon, but it is considered a mere compilation, being defective in that knowledge of relation and position, with that of local disease, or its remedies. It was, however, republished by Petit in 1753, and afterwards in 1789. Malacarne in 1794 at Venice, and 1801 and 1802 at Padua, published essays on the Surgical Anatomy of the head, trunk, neck, and extremities. This treatise is almost unknown. Bichat, in his descriptive anatomy, founded the basis of this department, and, had he lived, would have completed a work as distinguished as his other systems of anatomy. Materials were, however, collecting. Scarpa on hernia and aneurism, and Cooper on hernia, added a vast stock to this branch of knowledge. Colles, of Dublin, deserves great praise for his industry and accuracy; and Allen Burns' Surgical Anatomy of the head and neck, at the period it was written, contributed much to the improvement of surgery. M. Velpeau has designated this work, "Chirurgical Observations, accompanied with anatomical remarks;" we think, unjustly; and he has as disparagingly spoken of a system of Surgical Anatomy, by Dr. Anderson, of this city, as "an indifferent work, with very bad plates." He, however, gives some credit to Dr. Godman, for his work on the aponeuroses. The mongraphs of Hodgson, on the arteries and veins; Lawrence and Cooper on hernia; Harrison on the arteries; Dupuytren, Key, and Colles, on lithotomy, with many other treatises, have enabled Velpeau, Blandin, and Edwards, to collate and erect into a system, the works which we now are considering. We shall give their divisions, and specimens from each. The body is divided into sections or regions. The component parts are considered separately, from the skin, to the deep-seated parts; the skin, the cellular membrane, then the facia, the muscles, arteries, nerves, and lastly, the bone. The structure of all these are considered with such physiological, pathological, and surgical remarks, as are necessary. Thus, the general arrangement of the three works, is the same, yet the individual parts of the arrangements differ.

M. Velpeau divides the body into seven great parts: 1st, the head; 2d, neck; 3d, thoracic members; 4th, chest; 5th, abdomen; 6th, pelvis; 7th, the pelvic members. We here give this subdivision.

		Regions.
The head.	The skull.	Frontal region. Temporal region. Occipital region.
	The face.	Parotid region. Nasal region. Orbital region. Zygomato-maxillary region. Masseterine region. Genial region. Mental region. Labial region. upper. lower. Olfacient region. Buccal region or cavity. Pharyngeal region or cavity.
The neck.	Anterior part of the neck.	Supra-hyoid region. Infra-hyoid region. Supra-clavicular region.
	Posterior part of the neck.	
The thoracic members, or upper extremities.	The shoulder.	Infra-clavicular or axillary region. Scapular region.
	The arm.	Anterior brachial region. Posterior brachial region.
	The elbow.	Bend of the arm, Elbow.
	The fore-arm.	Palmar region. Posterior antebrachial region. Margins of the fore-arm.
	The thumb.	Anterior region. Dorsal or posterior region.
	The hand.	Palmar region. Dorsal region.
	The fingers.	Palmar region. Dorsal surface.
The chest.	The thorax.	Sternal region. Dorsal or vertebral region. Costal region. Mammary region.
	Interior of the thorax.	Median septum or mediastinum. Pectoral cavities. Base of the thorax. Apex of the thorax.

The abdomen.	Thoraco-epigastric zone.	Epigastric region.
		Hypochondriac region.
	Meso-gastric zone.	Umbilical region.
		The flanks.
		Lumbar region.
	Hypogastric zone.	Hypogastric region.
		Iliac regions.
	The abdominal cavity.	Superior wall.
		Anterior wall.
		Lateral wall.
		Posterior wall.
		Iliac fossa.
		Viscera.
	The pelvis.	Pubic or anterior region.
		Ano-perineal region.
		Pelvic region.
		Perineal region in the female.
		Pelvic in the female.
		Sacro-coccygeal region.
		Gluteal region.
		Inguinal region.
The pelvic members, or lower extremities	The thigh.	Anterior femoral region.
		Posterior femoral region.
	The knee.	Anterior region, or knee proper.
		The ham.
	The leg.	Anterior external region.
		Posterior region.
		Internal or tibial region.
	The malleoli.	Internal ankle.
		External ankle.
		Anterior inter-malleolar region.
		Posterior inter-malleolar region.
	The foot.	Dorsal or superior region.
		Plantar or inferior.
		The toes. [*Velpeau.*

There are many objections to this arrangement, of which M. Blandin appears to have been aware; accordingly he has attempted to simplify it.

				Regions.
The Human Body consists of	TRUNK.	Cerebral extremity. The head.	Cerebral portion. Skull or cranium.	Occipito-frontal.
				Temporal.
				Auricular.
				Mastoid.
				Basilar.
				Internal-cranial.
			Sensual portion, or the face.	External-olfacient.
				Internal-olfacient.
				Palato-gingival.
				Glosso-supra-hyoid.
				Labial.
				Mental.
				Palatine.
				Genal.
				Tonsillary.
				External orbitar
				Ocular.
				Zygomatic.
		Coccygeal extremity.		

The Human Body consists of	TRUNK.	Central portion.	Neck.	Anterior lateral portion. Τραχηλος.	Glosso-infra-hyoid. Parotid. Laryngo-tracheal. Supra-clavicular. Sterno-mastoid. Carotic.
				Cervical.	Cervical.
			Chest.	Walls.	Sternal. Costal. Dorsal. Diaphragmatic.
				Cavity.	Mediastinal. Pulmonary.
			Abdomen.	Ant. lateral.	Costo-iliac.
				Posterior.	Lumbar. Iliac. Inguinal.
				Superior.	Diaphragmatic.
				Inferior.	Perineal. Intra-pelvic. Pubal. Testicular. Scrotal. Sacral.
				Cavity.	Intra-abdominal.
	MEMBERS.		Thoracic extremities.	Shoulder.	Clavicular. Scapular. Scapulo-humeral. Axillary.
				Arm.	Brachial. Cubital.
				Fore-arm.	Antibrachial. Thumb.
				Hand.	Palmar. Digital.
			Abdominal extremities.	Hip.	Gluteal.
				Thigh.	Crural. Genual.
				Leg.	Tibial. Malleolar and inter-malleolar.
				Foot.	Plantar. Digital. [*Blandin.*

It will be seen from this, that his arrangement of the regions is made to correspond to the general function of a part resembling an organ. M. Edwards has gone still farther: yet we think he has sacrificed too much, in his efforts to render the subject more simple.

1. Superior region of the head.
2. Naso-orbitar region.
3. Maxillary region.
4. Auricular region.
5. Anterior cervical region.
6. Posterior cervical region.
7. Anterior thoracic region.
8. Posterior thoracic region.
9. Scapulo-humeral, or region of the shoulder.
10. Middle region of the arm.
11. Region of the hand.
12. Anterior abdominal region.
13. Lumbar region.
14. Pelvic region.
15. Coxo-femoral region, or the hip.
16. Genu-tibial region.
17. Region of the foot.

We will give a specimen from each, that our readers may judge of their merits.

"As we advance near the summit of the chest, the mediastinum encloses, from right to left, and from before backwards, the superior vena cava, which has received the subclavian, the right internal mammary, &c.; the arteria innominata, before and on the outer side of which are seen the nerves of the lung and of the diaphragm; lastly, the carotid and subclavian arteries of the left side.

"The arteria innominata or brachio-cephalic trunk, is here the most important organ; it is about an inch and a half in length; it ascends, inclining slightly to the right, to a level with the sterno-clavicular articulation, where it divides, opposite to the point which separates the two portions of the sterno-mastoid muscle. It is covered, from the deep parts towards the skin, by the par vagum and right cardiac nerves; by the termination of the internal jugular, subclavian, and thyroid veins, and the superior cava; by the origins of the sterno-thyroid and sterno-hyoid muscles; by the sternum, the head of the clavicle, and the internal tendon of the sterno-mastoid muscle; besides, the different veins and the artery are enveloped in this place, by a very strong fibro-cellular lamina; posteriorly it is removed from the trachea, by some lymphatics and cellular tissue; on the right, it is very close to the pleura; finally, this trunk is so disposed, in the healthy state, that in order to discover it, it would be necessary to depress the right shoulder firmly, at the same time that the head is thrown backwards and to the left, as much as the position of the disease will permit; to divide the sternal tendon of the sterno-mastoid muscle; to separate some veins which descend behind this muscle; to cut across the sterno-hyoid and sterno-thyroid muscles; to tear through a thick and strong fibrous plate; to depress the left subclavian vein, pushing back the jugular, par vagum and phrenic nerves toward the summit of the right lung, and lastly, to pass a thread around the artery, by introducing the aneurismal needle from before backwards, and from right to left, taking great care to avoid the right pleura and trachea. If we wished to discover the brachio-cephalic trunk, by trepanning the sternum, as was mentioned in the anterior region of the chest, we should seize the artery below the left subclavian vein; but it is important to remark, that it is necessary here to apply the ligature as high as possible, on account of the proximity of the aorta, which must render the formation of the clot in the root of the vessel which we wish to obliterate, less sure, if the thread is carried low down upon the artery. In whatever manner this operation may be performed, it is one of the most difficult and dangerous in surgery; upon the living subject, there must be something dreadful in it, and it requires all the knowledge and all the bold dexterity of modern surgeons, in order to dare to undertake it; indeed, it would seem, *á priori*, almost rashness to think of it, especially because it would appear as if the circulation must immediately cease in the right superior extremity, which does not receive any other arteries than those which it derives from the innominata. But reasoning must be silent, since observation has spoken. Twice, in fact, has this operation been performed: once in New-York, by Dr. Mott, and once in Germany, by Graefe.* Notwithstanding they were not attended with complete success, these essays at least prove that life will be preserved in the limb, and the other parts to which the arteria innominata sends its branches, since, in the first case, the patient lived until the sixteenth day, and in the second, about thirty days: then the circulation must have been maintained by the inosculations of the arteries of one side with those of the other.

"As the brachio-cephalic trunk is supported by the sternum, it must, when diseased, readily compress the trachea, and even the œsophagus, behind; the cava and subclavian veins before; the par vagum on the right, and the carotid on the left. Aneurismal tumors may be prolonged into the infra-hyoideal region, and be mistaken for aneurisms of the common carotid artery. Burns has delineated, in his work on the *Surgical Anatomy of the Neck*, a remarkable example of this kind, and we can conceive how dangerous it would be to mistake such a case, if we determined to seek for the artery below the tumor. Anomalies of the arteria innominata are very rare; nevertheless, we possess some pretty remarkable specimens of them, and, during the preceding winter, we met with, in the dissecting rooms of the *Ecole-pratique*, a variety in the position of this vessel, which would have rendered its ligature impossible: after its origin, the arteria innominata passed to the left, in order to turn over the trachea, then penetrated between this organ and the œsophagus, and replaced itself on the right side at the moment of its bifurcation, but much more deeply than in the natural state."

The relations of the left carotid, in the upper part of the mediastinum, are the same as in the lower part of the neck; anteriorly, it is covered by the thymus gland in the child, some lax cellular tissue and lymphatic glands in the adult, by the subclavian vein, the left sterno-thyroid and sterno-hyoid muscles; lastly, by the sternum and sterno-clavicular articulation: posteriorly, it is removed from the vertebræ by the longus colli muscle, the pleura, and some cellular tissue; finally, on the left, the par vagum runs by the side of it, and the serous membrane separates it from the lung until near the first rib: it is, therefore, much deeper seated than the arteria innominata.

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* "We have just been informed, that the patient of M. Graefe survived four weeks, and that the operation would, perhaps, have been attended with complete success, if this dexterous surgeon had not removed too soon the *serre-nœud*, which he is in the habit of employing, and which he had applied upon the artery."

"The left subclavian artery ascends parallel to the preceding, from which it is separated by some cellular layers only; this branch lies so deep, that it is almost in contact with the pleura, in the summit of the thoracic cavity; so that its ligature, previous to its passage over the first rib, requires the greatest precautions relatively to the pleura."—*Velpeau.*

"In this region is practised, in the majority of cases, the operation of lithotomy. To examine it anatomically, we recognise with M. Senn three methods only, the *median*, the *oblique*, and the *bilateral.*

"The *median* operation, always necessarily accompanied with lesion of the ejaculator ducts, when it is wholly median, is bad in young subjects. When it is wished to perform this operation without dividing the rectum, the division of the neck of the bladder must be confined to seven lines. If, on the contrary, it is wished to divide the neck of the bladder, and the lowest part of the rectum, the operator obtains a large opening, followed almost always by incurable fistulæ. The operation itself, which consists in dividing not only the prostrate and the rectum above it, but the recto-vesical septum, as at first proposed by M. Sanson, but since, I believe, abandoned, would be a rash attempt, condemned at once by surgery and anatomy. Besides, the inconveniences already objected to the median operation, it would often terminate fatally, by opening the peritonæum, especially in infants, as happened to M. Gery, in the only case, happily, in which it was attempted to open the bladder thus largely. In performing the median operation, we divide successively the skin, the cellular tissue of the raphé, the inferior permeal aponeurosis, the extremities of the *bulbo-cavernosi* and sphincter, the raphé of the transverse muscles of the perinæum, the median aponeurosis, the lower part of the bulb of the urethra, its membranous portion, and the prostate below, with the neck of the bladder. The incision divides, then, the *verumontanum*, unless it be cut laterally, as M. Dupuytren proposes, which, however, is liable to injure the ejaculating ducts, and the extremity of the *vesicula*; finally, proceeding beyond the prostate, the incision divides, in the fashion of a saw, the part of the rectum next the anus, and the sphincter.

"In the oblique or lateralised lithotomy, three periods are distinguished; 1*st*, the incision of the sub-urethral parts; 2*d*, the division of the urethra on the staff; and 3*d*, the division of the neck of the bladder. In the first, the operator divides the skin, the cellular membrane, the inferior aponeurosis, some twigs of the superficial perinæal artery, which is passed within without being cut, unless the incision be too lateral, the *bulbo-cavernosus* and *transversus* muscles, the bulb below, the middle aponeurosis, and the membranous part of the urethra. It is requisite to go fourteen lines before the anus, to cut the artery of the bulb in the regular manner. Its lesion otherwise is inevitable. The inferior hemorrhoidal arteries cannot be cut, unless the incision proceeds behind the ischial tuberosity. In the second stage, the urethra alone is divided; and here the rectum cannot be injured, unless, when raising too high the handle of the bistoury, its point quits entirely the groove of the staff. In the third stage, the operator divides transversely or obliquely the neck of the bladder, the prostate, and the anterior bundle of the *levator ani.* Not to go beyond the limits of the prostate, the incision ought to be confined to nine or ten lines. Beyond this, the prostatic plexus is divided, and infiltration of urine easily takes place. If the incision is too extensive, the rectum may be injured, and even the vesicula of that side may be cut. Lastly, if the division be made transversely and extensively beyond the prostate, it cuts the *superior perineal fascia*, applied on the sides of the gland; and, consequently, infiltration beneath the peritonæum, and other formidable accidents, supervene rapidly. It would exceed the limits prescribed by art, to divide the trunk of the perinæal artery placed out of the region, and protected by the bones and fibrous textures. When this misfortune happens, the operator, to arrest the hemorrhage, might tie the artery within the ischial tuberosity, where it is easily discovered, either by seizing it by a curved needle, and enclosing it in a ligature, or by obliterating it by a twisted suture, as Dr. Physick, of Philadelphia, did. Necroscopic inspection almost always shows, that, in the cases in which violent hemorrhage had led to the suspicion, that the internal pudic artery was wounded, this vessel was uninjured, and that one of its branches, most frequently the transverse, had been cut. Beclard also performed upon the subject experiments, from which it results, that it is almost impossible to open this artery, even when it is attempted by a large incision. In the general description of the perinæum, we spoke of a variety, in which the obturator artery sends a branch to the penis, under the symphysis. In this case, the celebrated Shaw thinks that the vessel may be punctured in the lateral operation. This conclusion, however, we must be cautious not to generalize.

"The *bilateral operation*, which is advantageous to obtain a large opening, without going beyond the prostatic limits, requires the division of the skin, the cellular tissue, the inferior aponeurosis, the *bulbo-cavernosus*, *sphincter*, and *transversus*, the middle aponeurosis, the *levator ani*, the lower part of the bulb, the membranous part of the urethra, the neck of the bladder and the prostate, *transversely*, or better, by two incisions, according to M. Senn, one oblique on the left, the other transverse on the right. It is still necessary to remember in this operation, that the transverse extent of the prostate does not exceed eleven lines. The curved direction given to the exterior incision, almost always prevents the injury of the bulbous and superficial perinæal arteries."—*Blandin.*

"The *aorta* arises from the base of the left ventricle, behind the pulmonary artery, to which it is joined by a great quantity of fatty cellular tissue. It then proceeds upwards, first between the vena-cava and pulmonary artery, and ascends in front of the vertebral column by describing a curve, the convexity of which is turned forwards, and to the right side. On a level with the third or fourth dorsal vertebra, this artery entirely leaves the pericardium, and by continuing the curvature to the back part and left side, proceeds transversely, on a level with the second dorsal vertebra, and forms what is called *the arch of the aorta*. This curve terminates on the left side of the body of the third dorsal vertebra; proceeding from this part, the aorta becomes vertical, and descends along the anterior and left part of the vertebral column, in the posterior mediastinum.

"In the interior of the pericardium, the aorta is only separated from the sternum by the mediastinum, and is connected at the right side with the superior vena-cava and the lung; still higher up, it is covered by the thymus gland. When aneurisms form in the ascending portion of the aorta, the pressure exercised by these tumors on the anterior wall of the thorax, often causes the absorption of a portion of the sternum and the ribs, and thus they frequently open externally. Corvisart saw a case in which luxation of the sternal extremity of the clavicle had been occasioned by an aneurism of the aorta. But, generally, when these tumors form an external projection, it is at the base of the neck that they are situated, and at this place they are sometimes confounded with aneurisms of the subclavian; hence, Burns advised that the ligature should never be put around this vessel, unless the finger could be put between the tumor and the top of the chest. The relations which exist between the origin of the aorta and the pulmonary artery, explain how aneurisms of the ascending aorta open into this vessel; but this termination, which has been observed by MM. Payen and Zeink, is extremely rare. Corvisart saw an aneurism of the ascending aorta compress the superior vena-cava, and thus produce a considerable impediment to the return of the blood from the upper parts of the body to the heart. The arch of the aorta rests posteriorly on the trachea, a little above the origin of the bronchi, and its concavity, turned downwards, surrounds the left bronchus and the left pulmonary artery. It, therefore, often happens, that aneurisms of the ascending aorta, or of the arch, compress the trachea or the bronchial tubes, and even open into them, suddenly producing a mortal hemoptysis. The cavity of the left pleura is the place where the greater part of aneurisms of the thoracic aorta open. It is, on the contrary, very rare to see them burst into the right pleura; indeed, the left side of this vessel is connected with the pleura of the same side, whilst, on the right side, it is separated from it by the œsophagus, the thoracic duct, and vena-azygos. Aneurisms of the aorta may open into the œsophagus, but this is not of very common occurrence. The obliteration of the thoracic duct, and the enlargement of all the lymphatic vessels, are among the effects of the developement of tumors of this kind. The pressure which is exercised on the body of the vertebra, with which the aorta is connected posteriorly, often causes the destruction of these bones to a greater or less extent. Lastly, compression of the lungs, and, consequently, difficulty of respiration, are the most ordinary effects of this disease.

"The arch of the aorta gives origin to the arteria innominata, left carotid, and left subclavian arteries. The first of these vessels is the most anterior, and ascends obliquely beneath the left subclavian vein, the sternum, and the sterno-thyroidei muscles. Lastly, the carotid and subclavian arteries occupy the superior extremity of the mediastinum: but, as we have before pointed out the principal relations of these vessels, we shall not now return to them."—*Edwards.*

The work of Velpeau is the most elaborate, and is best adapted to the student; although, as to the general summary, that of Edwards is, perhaps, preferable for the practitioner. Blandin is, evidently, the most philosophical in every respect; the arrangement is more perspicuous, and has less the appearance of being artificial. We cannot omit acknowledging our obligations to Dr. Sterling, for the translation of Velpeau; it is well executed, and we wish some spirited individual would render the same service to the reputation of Blandin.

We now come to the works of Harrison, and Smith, on the surgery of the arteries. These, our readers will perceive, from the extracts we shall give, are entirely different from the treatises on topographical anatomy. The first embraces the pathology, and relations of the arteries to the surrounding organs; while the latter includes the same application to all the component parts of the body, viz., fascia, muscle, arteries, vein, nerve, &c. The work of Harrison is complete, if we except the varieties of arteries. It is probable that the great work of Tiedeman was not published when he wrote, but we perceive that a work is issued from the press at Dublin, supplying the deficiency. Plates would have been very serviceable. This Dr. Smith has, in some measure, provided; yet we could have wished that the vessels were given more in relation, especially in those parts where great operations are frequent. Mr. Harrison professes his object to be, to facilitate the study of the relative connexions of every blood vessel, whose magnitude can render it of practical importance, or whose peculiarities of course and termination, can elucidate any physiological inquiry. It must be evident to every one, that this method is the true one; for when we connect an anatomical description with practical remarks, be they physiological or pathological, they must be impressed upon the memory, from the principle of association. Yet it must not be inferred, that he has omitted the detail of his subject; on the contrary, they are most ample, for he treats of the covering of the vessels, the part it lies upon, those which accompany it, and the branches it distributes in its course.

Dr. Smith, in addition to this, gives, as he says, a new mode of illustration. The object is, to convey at a glance, an idea of the absolute and relative length and diameter of each of the more important arteries; also, of the number of their branches, and the order in which they are given off. This is, unquestionably, useful, and will constitute a very important part of information, which the student ought to acquire. We think it cannot, for a moment, be doubted, that if figures can be devised, which shall convey all this at a glance, the information will be more deeply impressed, and more promptly communicated, than it can by words.

We subjoin extracts from these two works, upon the same subjects.

"The aorta arises from the upper part of the left ventricle of the heart, directly in front of the left auriculo-ventricular opening, and behind the pulmonary artery; the fleshy fibres of the ventricle are not continuous with the fibres of the aorta; both this vessel and the pulmonary artery, are connected with the heart, in the following manner:—first, the serous layer of the pericardium being continued from the surface of the heart, upon the arteries at their origin, serves to connect them;—secondly, the lining membrane of the heart is continued into each vessel, forming at their commencement the semilunar valves;—thirdly, the middle or fibrous coat, commences abruptly at the termination of the fibres of the heart, by three semi-circular portions, whose convexity is turned towards the ventricles, the fleshy fibres of which are inserted into the edge of each of these festoons; these cover the small pouches (the sinuses of Morgagni) that lie outside the semilunar valves; and thus these sinuses are rendered sufficiently firm to resist distension, as the blood is strongly pushed into them during the systole of the arteries. In the angle between the extremities of two of these, the wall of the artery is formed only by the lining membrane of the heart, and serous layer of the pericardium, which are here in apposition. If the opening of the aorta be inspected from the cavity of the ventricle, it appears of a triangular shape, and of much smaller calibre than the artery is immediately above this, for it then swells out into the sinuses of Morgagni.

"If the attention of the student be directed to the relation which the origin of the aorta bears to certain points in the parietes of the thorax, he will find, that this part of the artery is opposite the upper edge of the cartilage of the fourth rib of the left side, at its junction to the sternum, and to the left side of the body of the fourth dorsal vertebra. The vessel, emerging from the pulmonary artery, and tip of the right-auricle, passes upwards, forwards, and in the direction of the heart's axis, to the right side; then bends backwards, and to the left side, and descending as far as the left side of the body of the third dorsal vertebra, completes what is called the arch of the aorta. This arch, for the purpose of description, may be divided into three portions; the anterior, or ascending; the middle, or transverse; and the posterior, or descending; the first, or ascending portion of the arch of the aorta, rises as high as the upper edge of the cartilage of the second rib on the right side, passing in the direction of the heart's axis, and describes a curve, which is convex upwards, forwards, and to the right side; almost all this portion is within the pericardium, its commencement is covered by the pulmonary artery, it afterwards lies between this vessel, and the superior vena-cava, the right pulmonary artery is behind it, and the pericardium, and some cellular membrane, separate it from the sternum, from which, when it is distended, it is only about a quarter of an inch distant. The left vena innominata is closely connected to its upper part, by a dense fascia, and overlaps it towards the right side. This portion of the arch is often very much dilated, without being diseased, and is, therefore, sometimes named the great sinus of the aorta; the highest point of which is nearly on a level with the line of connexion between the first and second pieces of the sternum.

"In the child; however, this is by no means so large in proportion, as in more advanced life; nor is it so close to the sternum in the young, as in the old subject.

"The middle portion of the arch runs almost horizontally backwards, and to the left side, ending opposite the body of the second dorsal vertebra; it rests on the trachea, a little above the division of that tube; its termination is connected to the pulmonary artery, by the ligamentous remains of the ductus arteriosus; the par vagum of the left side crosses it, and its recurrent branch hooks under it; from this part of the arch arise the three great vessels, to supply the head and superior extremities.

"The third, or descending portion of the arch, is continued from the last, downwards, and backwards, between the vertebra and left lung, and ends at the left side of the body of the third dorsal vertebra; this bone, in old subjects, is often indented on its left side, the pressure of the artery causing its absorption; the œsophagus and thoracic duct lie on the right side, and somewhat in front of this portion of the arch. The aorta then descends along the left side of the vertebral column, under the name of the thoracic aorta, the description of which shall be resumed after that of the branches of the arch. There is no exact distinction between the termination of the arch, and the commencement of the thoracic aorta; nor, as Dr. Barclay observes, does the one deserve the name of thoracic more than the other. Before the student traces any of the branches of the aorta, he should pay particular attention to the different relations its arch bears to several surrounding parts, and consider the effects that aneurism of this vessel is likely to produce."—*Harrison.*

"The great trunk of the systemic arteries arises, opposite to the cartilage of the left fourth rib, from the right posterior and superior angle of the left ventricle of the heart. Its origin is in front of the ostium venosum, and, obliquely, on its right and in front, it has the right auricle assisting to conceal its root. On the right is the cava descendens. Viewed from before, the artery is seen emerging from between the auricle and the pulmonary artery, having, at the distance of an inch from its origin, gained this situation by inclining to the right, and decussating the pulmonary artery, which, arising from the left superior angle of the right ventricle, inclines to the left in a corresponding manner. These great vessels appear, indeed, as if twisted upon each other, like the strands of a rope. We cannot better illustrate their local relations, than by imagining these organs to have issued from the heart, parallel with each other, and then the heart to have been grasped and contorted to the left. The ventricles and auricles of the heart also partake of the contortion. Thus the great vessels, and the distinct compartments of the heart, are made so to embrace each other, that they are effectually sustained, and all tendency to separation, or displacement, during the systole of the heart, is prevented.

"The proper arterial tunic of the aorta touches the heart only at three equidistant points, and between these, its margin is so cut away, that it presents three festoons, the convexities of which look toward the ventricle. A more perfect continuity of parts is effected by the passage of the lining membrane of the ventricle into the aorta, and its becoming continuous with the internal tunic of that organ. This membrane, being pressed outward beneath the festoons of the elastic coat, forms the sinuses of Morgagni; by certain duplicatures, it also forms the semilunar valves, the description of which rather pertains to the anatomy of the heart. The connection is also fortified by the inner lamina of the pericardium, which is reflected over the origin of the aorta upon the heart. When the aorta has disengaged itself from the pulmonary artery and right ventricle, it ascends more directly, bending at first a little forward, then to the left and backward. Its course is therefore spiral. Between the third and fourth dorsal vertebræ, it emerges from the pericardium, and occupies the middle of the vertebral column. Ascending as high as the second dorsal vertebra, it directs itself a little backward and to the left, almost transversely, thus forming the *arch of the aorta*, which terminates opposite the left side of the third dorsal vertebra, and above the pulmonary artery. Here the aorta becomes vertical, and descends directly along the left side of the spine.

"The arch of the aorta rises to within about ten lines of the top of the sternum. It has the vena cava and the lung on the right;

and in front, the mediastinum, between the laminæ of which it lies, attaches it to the sternum. Above and in front, the great transverse vein passes. The summit of the arch crosses the trachea just above its bifurcation. As it descends, the artery embraces in the concavity of its arch, the left pulmonary artery in front, and the left bronchius behind.

"It is obvious, from the manner in which nearly two inches of the origin of the aorta are embraced by the pericardium, enclosed in the same cavity with the heart, and, in a degree, insulated and distinguished from surrounding organs, that it must be with the heart that it is most intimately associated in disease. When aneurism occurs in this portion, the pericardium reflects the tumor upon the heart, and hence it is often difficult to distinguish aneurism thus located, from diseases of the heart. It is obvious, that the tumor must also hinder the free dilatation of the right auricle, and impede the passage of blood through the pulmonary artery. When the disease, thus situated, at length results in rupture, the contents are, generally, thrown into the cavity of the pericardium, and instant death occurs.

"But it is after the aorta has emerged from the pericardium, that it becomes most obnoxious to the causes of disease. The arch of the aorta is more frequently the seat of organic derangement, than any other portion of the arterial system. It is this which first encounters every violent and irregular impulse of the heart, when disturbed in its action, and which thus protects the more remote branches. It does this the more effectually, because of its abrupt curvature, but, for the same reason, it is itself exposed to more violence. It is apparent, that the current of blood from the heart will dash with greatest violence against the upper part of the arch, which, indeed, for this reason, is provided with thicker walls than other portions. Nevertheless, it is the most frequent seat of disease. In aged subjects—even those that have never given evidence during life of disease of the great blood-vessels, it is, by no means, uncommon to find the upper part of the arch uniformly dilated. This is because, from the feeble exercise of the nutrient functions, it loses its properties of texture, becomes inelastic, and ceases to recover itself after the impulse of the heart. How is it then that the circulation is undisturbed, since it is believed, that the elasticity of the aorta is necessary to urge on the blood which is sent from the heart? When thus dilated, the aorta borrows elasticity from the lungs, the walls of the chest, and other adjacent parts, against which it is pressed in its dilatation, and which recoil upon it during the diastole of the heart.

"When aneurism occurs in the anterior portion of the arch, the tumor is generally urged forward upon the sternum and costal cartilages, often causing their absorption. The signs which indicate its existence, are great embarrassment in the functions of the heart, sense of fulness in its region, palpitations, pulse intermittent, and often feeble. By pressure on the cava, the return of venous blood is impeded, and hence the livid aspect of the face, and fulness of the cervical veins. But the disease is very liable to be located at the roots of the great branches, because here the blood encounters more impediment, and because here the walls of the vessels resist with less mechanical advantage. Then the aneurism will generally be urged upward, to the top of the sternum and clavicle, and appear on the neck, greatly embarrassing respiration, by pressure on the trachea, hindering the return of venous blood, pressing the left vena innominata against the sternum, and even rendering deglutition difficult. As is illustrated in the well-known case of Allan Burns, it is very difficult to distinguish these aneurisms of the aorta from those of its great primary branches. When a tumor of this description, rising from the cavity of the thorax, is pushed through the upper strait of this cavity, it must greatly embarrass those organs which occupy this strait, and remarkably disturb their local relations.

"Aneurism, for obvious reasons, rarely occurs in the concavity of the aortic arch; yet, sometimes it does, and then, as this concavity embraces the upper margin of the root of the lung, the pressure of the tumor will be inflicted upon the left pulmonary artery, the left bronchius, the recurrent laryngeal nerve, &c. When near the anterior part of the arch, the tumor has been known, by Payen and Zeink, to burst into the pulmonary artery."—*Smith.*

By a knowledge of such works, the profession in this country cannot fail to be benefited. It is true, that the higher departments of anatomy have not, as yet, been taught in our colleges; yet, we think these successful efforts in Europe will have a correspondent influence here. It is a remarkable fact, that, until these five years past, the demonstration of the brain, in this city, was taught precisely in the same manner, as it was by Winslow, upwards of one hundred years ago. Although we do not think Dr. Smith's treatise as complete as that of Harrison, still he merits our thanks, in directing public attention to this branch of our study; and he cannot render a greater service to our country, than by continuing his useful labors. He is the first who has given an impulse to this valuable department of knowledge. It will have one great advantage, in directing the attention of our surgeons to a more complete acquaintance with the surgery of the arteries, and making known more extensively the improvements which have originated here. M. Velpeau appears to be aware of the labors of Dr. Mott, whom he calls the "celebrated Mott;" yet he does not notice the subsequent operations of this surgeon, who may now be emphatically called the "American operator;" and who, in the language of a distinguished professor, stands "unrivalled in aneurismal diseases." Dr. Sterling has published an appendix, in which the claims of Dr. Physic are justly maintained, and also some important operations detailed, such as the removal of part of the superior maxillary bone, and extraction of the astragalus, which were first performed by Dr. Stevens of this city. There is another important benefit, which will spring from the study of topographical and surgical anatomy. It will be found in the elevation of the standard of medical education. It cannot be concealed, that the multiplication of medical schools has a most injurious influence upon the medical character. Medicine cannot be taught successfully, where anatomy, in all its branches, is difficult of access. Where there are so many schools, their wants cannot be satisfied. We hope that the attention of the legislature will be directed to the supply of every school in the state, with the proper materials for its successful prosecution. Prejudice is fast yielding before the apparent necessity of making ourselves acquainted with the structure of bodies. The extended reputation of Paris, in medicine and surgery, is entirely derived from the facilities which are furnished to its schools. If they are not introduced more extensively, we must fall into the degradation of empiricism, for there is no basis but anatomy upon which we can found the science. The consequence must be, if the public can dispense with its acquirement, the practitioner will be content, and measure his knowledge by the demand for it. Simple elementary anatomy is now all that is taught, and it is conceded, that it is not sufficient; and yet some of our schools can scarcely procure subjects for its illustration. No student should graduate, unless he is competent, at least, to the performance of the mechanical part of his profession. The living body offers the only opportunity of studying anatomy, where he, in all probability, receives the first rudiments of his profession. It may fall to his lot to dissect one or two bodies, while he is a student, but there are so many branches of knowledge dividing his attention, that he is incapable of appreciating his opportunity. Nothing is forgotten so soon as anatomy, especially when it is taught unconnectedly; it should have a practical bearing, and he may, perchance, retain some part of it. But he is now dependent upon plates, or some dried preparations, which his good fortune may have secured to him,—a most inadequate means of supplying his wants. There cannot be a stronger necessity for the study of anatomy, than is now felt in the present deficiency of the treatment of mental diseases. We have an institution founded expressly for the cure of these maladies, and yet how little progress has been made in their investigation, and successful treatment. The treatment is almost wholly moral, and, we may say, without fear of contradiction, the rest is empirical. There is no part of our science, which demands such minute and laborious inspection, as diseases of the brain. A perfect knowledge of structure, of its change by morbid action, of its function in health and disease, is imperatively called for by every physician who makes them the subject of his inquiry. If any thing can urge the State to grant the aids we require, it must be carried home to the conviction of every member of the community, in the incompetency which assails us in our elucidation of this interesting inquiry. It is in vain, that we charge the physician with incapacity,—it is absurd, to dignify his treatment as medical, when the means are withheld from him, of improving the sphere of his knowledge, by the only power which can enlarge it, or give certainty to his practice, by any data derived from the true source of its seat. We must be content to rely upon the experience of others, and become entirely dependent, without the power to correct false deductions, or improve upon our own knowledge. We may enact laws for the better government of Medical Societies, or we may legislate upon the legitimacy of colleges, yet we advance not one step in the true cultivation of medical science, if we neglect the first principles of medicine, without which all is uncertainty and doubt. Every profession is insulated but ours. There is a right to discussion in the community, which we are compelled to recognise, because we have no standard to which we can refer, save anatomy, which is so imperfectly studied, and, consequently, so little understood, that our facts are considered as speculations, and our proofs but a portion of the many theories which have passed away,—exposing us, at one time, to unsparing satire, and, at another, to the mortifications which must fall upon all problematical systems. R.

ART. III.—*Memoir on the Treatment of Venereal Diseases without Mercury, employed at the Military Hospital of the Val-de-Grace. Translated from the French of* H. M. J. DESRUELLES, M. D. &c. &c. *To which are added, Observations on the Treatment of Venereal Diseases without Mercury. By* G. J. GUTHRIE, Esq., *Deputy Inspector of Hospitals, Lecturer on Surgery, &c. And various Documents, showing the results of this mode of treatment in Great Britain, France, Germany, and America.* Philadelphia: Carey & Lea. 1830. pp. 247.

THE consideration of the origin, character, and treatment of the venereal disease, has for ages occupied the attention of writers, and been the occasion of many vague theories, much learned research, and innumerable specific remedies. While historians have thought its origin a subject worthy of inquiry, priests have deemed it not beneath the dignity of their office, to mingle their speculations with those of the most noted charlatans; and the names of the Bishop Torella, and of Santallier, will be found among those who have engaged in its investigation, either from honorable or less worthy motives. Prejudice, dogmatism, and gratuitous assumption, have almost invariably accompanied the discussions elicited by the subject; and, notwithstanding the contradictory opinions which have been enforced, and the various remedies that have been commended, there is perhaps no disease in the treatment of which the unvaried spirit of routine has been more grossly displayed. Guiacum, sarsaparilla, acids, gold, &c. have all had their advocates, and enjoyed a brief popularity; but in every instance they have in their turn submitted to what has been considered by a series of generations as the one infallible remedy. Mercury has held an uncontrollable sway, in spite of experiment; and facts, however adverse to its specific virtue, have availed comparatively nothing. Hunter said, that however slight a chancre may be, mercury should be given internally; and a hatred of innovation, indolence in investigation, or positive ignorance, has perpetuated an error, the origin of which may be traced long previous to his time. As physicians have learned, so have they taught; their early lessons have been adhered to, and the fair deductions of experiment have been considered as the speculations of some habitual innovator. It is this bigoted obstinacy which is the greatest obstacle to practical improvement; for there are but few persons who do not find it a matter of extreme difficulty to divest themselves of old habits,—there is an obliquity in most minds, that perverts even the most forcible facts when in opposition to long adopted opinions. The truth is, mankind do not like to confess their errors, or to have their judgment or practice called in question. The spirit of the day, however,—a spirit of inquiry, experiment, and inductive reasoning, is favorable to an abandonment of this evil; and if an ardor for investigation, and a reasonable openness to conviction, be more freely encouraged by physicians, if they become more willing to submit their belief to the test of truth, than stubbornly to adhere to their deviations from its indications, they will discover that scepticism in medicine, when kept within bounds, is far preferable to an immoveable tenacity to opinions, because they are the results of early instruction, or to systems of practice, because they have been long and complacently followed.

During the present century the attention of physicians has been particularly directed to the anti-mercurial treatment of syphilis by many British and Continental writers. The subject has been so fully investigated, both officially and in private practice, and the results have been so forcibly demonstrated, that it would be idle any longer to hesitate in believing hat this disease, in every form, may be cured without having, recourse to the remedy in question. This possibility has also been proven in this country, by a course of experiments successfully pursued by Dr. Thomas Harris, at the Naval Hospital in Philadelphia, the results of which may be found in the first volume of the North American Medical and Surgical Journal. This question being thus placed beyond dispute, the peculiar advantages of the antiphlogistic mode of treatment remains for consideration.

> "To determine this point," says Dr. Hays, in his preface to the work before us, "it is necessary to ascertain, 1st, by which mode of treatment the disease is most readily cured; 2d, which mode of cure is most permanent; and 3d, and lastly, which mode of treatment is the pleasantest, and does least injury to the constitution of the patient."

With these points in view, we shall endeavor to give our readers such an analysis of M. Desruelles' work, as will, we hope, enable them to form their conclusions upon these interesting questions.

The author says, that prejudice has not caused him to abandon the use of mercury; he had most implicit confidence in it. Conceiving, however, that a preparatory regimen was necessary for its safe administration, he adopted the use of a simple diet; but it frequently happened that many symptoms disappeared during this preparation, and he was compelled either to permit the patients, who were in fact cured, to leave the hospital without being *specifically* protected, or else forcibly detain them for the performance of this duty. This was considered as an inconvenience which could be only obviated by not curing them at once by simple treatment, but by giving mercury as soon as the symptoms should become less violent; he, however, discovered that the cure was not only retarded, but that the disease assumed new characteristics. On account of these observations, he says,

> "I devoted the year 1826 to these experiments; and, finally, being convinced that mercury was unnecessary, when the simple and antiphlogistic treatment has been rigidly pursued, I abandoned its use altogether, and since the first of January, 1827, up to the present day, I have not administered one single atom of mercury, whether my patients were laboring under the primitive or secondary symptoms of syphilis.
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> "For more than a year we have sought, without prejudice, for a single case where mercury should be substituted for antiphlogistics, but no one has presented itself. Whenever the cure is retarded, or we find new symptoms appearing, the cause can always be traced to the patient's having deviated from the proper regimen.
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> "Before I had acquired the habit of distinguishing by the aspect of the symptoms, whether my patients had deviated from the prescribed regimen, I thought that those ulcers styled Hunterian, required the application of mercurials, but a considerable number of facts have convinced me that I was wrong, and that the Hunterian ulcers will as readily yield to antiphlogistics as the simple and phagedenic."

Disproving, therefore, the specific character of the Hunterian chancre, he next observes, that the classification of primary venereal ulcers has been needlessly extended. It is from a variety of circumstances that the same simple ulcer may be made to assume different appearances; it may become excavated, with callous edges, if it be powerfully irritated, either locally, or by internal stimulation. Reduce the irritation by light regimen, by emollients, and simple washes, and the ulcer entirely loses this Hunterian character. Again, suffer ulcerated surfaces to remain in contact, as when chancres appearing upon the glans and prepuce are from their situation kept in this position, and you have the phagedenic ulcer, which will also occasionally assume a carcinomatous appearance. It is from the mere circumstance of contact that such are generally found behind the crown of the glans, "one part on the glans itself, the other on the corresponding prepuce." Indeed, all those forms which have been made to depend upon the different nature of the sores, are the result of predisposition of individuals, moral effects, cleanliness, season of the year, seat of the ulcers, tissues affected, &c. Artificial means, says our author, may produce ulcerations upon the genitals, whose character will deceive even those most familiar with the disease. The deception, he says, has been successfully practised. This has also been asserted by Hennen, who observes, that by an application of kali purum, a sore may be made, whose specific character may be increased or diminished at will. This we can scarcely believe; we are not yet prepared to go the whole length in this peculiar doctrine, and we are yet to be convinced that any such sore can be produced independent of coition, or a condition of the secretions of the part, capable of proving contagious by such an act. Observation must, we think, have proved, that there is a distinctness of character in the venereal, differing from ordinary irritation, or local inflammations. The mere seat of the disease is not sufficient to effect such results; there must be a subsidiary cause,—something which, if not a virus, as that term is generally understood, is at least sufficient to produce characteristics which we believe are not to be mistaken.

Ulcerations are classed, first, in the order of frequency as respects their seat; and, secondly, of their progressive decrease in the time necessary for their cicatrization. This is sufficiently simple, and will be found both convenient and useful; we therefore subjoin both classifications; and first, as respects their seat, they are found in frequency:

> "1st. Behind the corona of the glans. 2d. On the internal surface of the prepuce. 3d. On the frænum. 4th. At the meatus urinarius. 5th. On the penis. I make no mention of those which appear on the periphery of the prepuce, as their frequency depends on the form and extent of the opening of that duplicature of the skin of the penis.
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> "Posterior to the corona glandis they are hollow, round, and frequently numerous; upon the glans they are generally of less extent and depth, and few in number; on the frænum they are for the most part found on its thickest part, which they perpendicularly divide into two portions—one corresponding to the glans, the other completely isolated; the latter either breaks of itself, or requires to be cut. On the internal surface of the prepuce they are pretty extensive, but only superficial, unless they become phagedenic. On its external surface they are large, round, and almost even with the rest of the skin when not irritated. At the aperture of the pre-

puce they are small, numerous, deep, and round, or else they form very deep fissures. They become pustulous when moistened by the matter of urethritis. These various characters are evidently owing to the seat of the ulcer, and not to any peculiar species of irritation which has produced them.

"With respect to the cure of ulcers, we are enabled to establish a progressive decrease in the time necessary for the process of cicatrization, by commencing with those requiring the longest treatment. From all that we have said on the subject, we can class ulcers thus:—1. Ulcers of the frænum. 2. Of the urinary meatus. 3. Those around the aperture of the prepuce, (particularly fissures.) 4. Those posterior to the corona glandis, involving part of the prepuce and glans. 5. Those on the internal surface of the prepuce immediately posterior to the corona glandis. 6. Those on the internal surface of the prepuce when the opening of the latter will admit their being discovered. 7. Those on the external prepuce, and those of the penis itself, not including the superficial ulcerations, which at each dressing become covered with a thin pellicle."

Connected with these primary symptoms, we next notice some remarks on inguinal adenitis, (bubo.) This is divided into super and sub-aponeurotic. The treatment is somewhat peculiar. A method is recommended, which is followed at the Val-de-Grace Hospital, in order to avoid consequences which are painted in sufficiently disagreeable colors. He says that these consequences follow upon a false supposition that it is easy to effect the resolution of buboes by the free use of antiphlogistics. It is a mistake, he observes, the result of which may be remedied by the method he advises. This is, to open "with caustic potash such aponeurotic adenites as have formed a large sub-dermoid abscess, through the carelessness of patients, or ill-advised local treatment." The opening being made large, and in the direction of the bend of the groin, the abscess is exposed, and leeches are applied to the ganglions themselves, "within the cyst." If the apex of the bubo is still painful after such applications for a few times, we are assured that the disease lies below the aponeurosis, and we must abstain from local bleedings.

"The production of adenitis is favoured by lymphatic idiosyncracy; it occurs more frequently with those whose cellular tissue is covered with fat than others. We have already stated that adenitis does not always appear on the same side with ulcerations of the penis; we must add, that it is oftener on the left side than on the right, and attains an immense volume in those subjects whose pelvis is wide and deep.

"They often make their appearance when there are ulcers; not so frequently after simple balanitis; they are seldom caused by urethritis. They generally show themselves a few days after the above symptoms; seldom at the same time, and still more rarely without them. They are most common in damp chilly weather. Many medical men are of opinion that the cicatrices of adenites and serpiginous ulcers are uneven and tuberculous, and retain a long time the dark or reddish hue; they even think that this form of cicatrix is characteristic of syphilis. This is a mistake. The cicatrices alluded to never present such an appearance when mercury has not been employed, and emollients only been used in the dressings—they are then smooth and whitish, and even with the rest of the skin."

We come next to urethritis. If the arguments of various writers may be confided in, there can be but little doubt left of the affinity, if not identity, of gonorrhœa and syphilis. From these it would seem, that the circumstances under which these diseases appear are owing more to different general susceptibilities and local condition of parts, than to totally essential difference of the morbific combinations requisite to give to each a contagious character. The distinction is not in the poison, but in the severity of its action and its ordinary effects, and these last are mostly dependent upon individual peculiarities. Records of instances of this are not wanting; Hunter has evidences of the fact, and among others, the case given by Vigarous, and quoted by Hennen, must be familiar to most of our readers, where six persons had successively connexion with the same woman. The first and fourth in the order of connexion had chancres and buboes, the second and third gonorrhœa, the fifth chancre, and the sixth bubo. Mr. H. himself had a similar instance; where the first escaped, the second had true chancres and elevated sores, the third had gonorrhœa. "The connexion took place within an hour." We do not say that such will ordinarily be the case, but that it will occur, there can be no hesitation in believing. Chancres will more generally produce chancres, than a running, and vice versa; but still, a single exception is sufficient to prove that constitutional and local modifications are capable of producing different forms of the same disease. We are aware that Mr. Abernethy says, that this modification of the action of syphilis, or of any specific poison, wants the support of analogy. The matter of small pox is such a poison, and we see almost daily that its effects are modified by constitutional peculiarities. It will not be denied, we think, that variola and varioloid are both consequences of the same virus; experiment has made it a demonstrable certainty.

The primary seat of urethritis the author believes to be in every case about the fossa navicularis; here the infection is first received. If the bulb and the fossa be both affected, violent pain and frequent erections are evinced, but it seldom occurs that the whole extent of the mucous membrane is inflamed. In chronic affections it is probable that the bulbous portion is the seat of irritation; this, he thinks, is the case, from the fact that when the inflammation passes to the acute state, "a great degree of pain is experienced at the perinæum, strictures are very frequent at the bulb of the urethra and its immediate vicinity, and frequent local bleedings at the perinæum, as if the urethritis were acute."

Strictures are considered as more frequently arising from the severity and long continuance of urethritis, than from the use of astringent applications during the acute inflammatory state. It is not denied that this last is sometimes the case. The next variety in this catalogue is not unfrequently caused by the same injudicious treatment, productive of strictures. The righi is more frequently the seat of orchitis than the left side. This is often united with hydrocele. The tunica vaginalis is involved in the disease when the "orchitis is intense, the skin of the scrotum is red, tense, and very painful." Adhesions take place in this case, which are visible in various parts when the skin of the scrotum is extended. The author concurs in opinion with M. Gama, that hydrocele is in general the consequence of inflammation of the testicle.

After speaking of simple vegetations about the penis and anus, and of warts, M. Desruelles observes, that those symptoms which are ordinarily known as secondary, should not always be classed as venereal.

> "It has been observed, that the number and intenseness of these symptoms have amazingly diminished since mercury has been used more cautiously. All the patients I have had under my care with secondary symptoms, had passed through one or more courses of mercury, and the intenseness of the symptoms was always more or less in proportion to the quantity of mercury they had used in various forms. Those afflicted with caries of the bones, exostosis, periostitis, and pains, had consumed a great quantity of mercury by friction. Those suffering with tetters, ulcers of the mouth, velum palati, tonsils, or pharynx, with serpiginous ulcerations, suppurating pustules, and pains, have used to excess both the oxymuriate of mercury, and mercurial frictions. With most of the patients, the symptoms would become greatly aggravated at each change made in the mercurial treatment. I make no allusion whatever to chronic pneumonitis and carditis, gastritis and enteritis, so generally the result of such treatment; nor do I speak of alopecia, mania, and the very remarkable alteration of the features."

And again, at page 44, he remarks, that—

> "It is not by entering deeply into the examination of secondary affections, that we can succeed in determining exactly the character of the various syphilitic symptoms; for who can assure us that the forms of this affection do not depend in a great degree on the measures employed to remove the primary symptoms. All that has thus far come under our observation corroborates our opinion; the comparison of the secondary symptoms, after the treatment with and without mercury, will one day class among positive truths the proposition we now only hesitatingly advance, as we have not yet met with a sufficient number of cases to assert it positively."

Considering lues as a consequence of irritation, not differing from that of an ordinary character, the author nevertheless grants its contagiousness, but at the same time does not thence deem it necessary to admit the existence of a specific virus. "The small-pox, measles, and scarlatina, are contagious diseases, but, as yet, has any one believed in the existence of a variolous or morbillous virus?" As we read this query, it certainly conveys a rather novel idea. Contagion, virus, and poison, we have always considered as synonymous terms, and to concede a contagious character to a disease, and deny it the possession of a poison or virus, is undoubtedly a contradiction. If, however, he would only be understood to mean a peculiar or specific virus, the error is equally palpable; for then, according to this doctrine, small-pox, measles, scarlatina, syphilis, &c. are diseases of an irritation of a common character,—are contagious, but this contagion is also common; they have no specific difference, no peculiar virus, but are dependent for their variety of form upon previous modifications of the system; consequently, if this necessary modification be existing, exposure to small-pox may result in syphilis, and so through the whole catalogue of contagious diseases. Can any one believe this? If there is any peculiarity in the nature of a disease, there must also be something peculiar in its cause. We believe that lues and gonorrhœa are identical in their nature, because, as we have already seen, they may arise from the application of the same remote cause, but we know of nothing similar in other contagious diseases. We believe, both in a special variolous and morbillous virus; and it is preposterous to attempt the denial of the peculiar and distinct irritation of syphilis by such arguments as are adduced in this work. If the doctrine of a common irritation is reduced to such inconsistencies, it carries with it the best evidence of its falsity.

We must hasten, however, to the treatment of the disease;

first observing, that if in this we agree with the author, while we differ from him in opinion as to the specific character of syphilis, we trust that there will be discovered no contradiction of principle in the circumstance. John Hunter has said, that if a sore upon the penis be cured by mercury, it must necessarily have been syphilitic. This is no less a bad argument than to say, that because antiphlogistic means are sufficient for the cure of the same disease, it hence has no specific character. M. Desruelles, however, considers the "adoption of a venereal virus as useless in theory, as noxious in practice;" but the question, in the first place, is not as respects the uselessness of the theory, but as to facts; and it will require better logic than any we have yet met with on this subject, to prove subversive of the doctrine of the specific essentiality of disease. Does such a doctrine necessarily render our mode of treatment noxious? Is a specific remedy required as a consequence, or is it any way productive of a violation of correct therapeutical principles? We confess our ignorance of the necessity of any such results. We shall, however, give our author the full benefit of his objections, by extracting what he seems to consider the very pivots upon which the whole subject moves.

"It is scarcely possible not to perceive all the influence of the morbid modification produced by the infection; but are not these consequences nearly the same as those observed in the worst stages of scrofula and scurvy? Is it necessary to inquire into the existence of a first cause? Must we imagine a virus circulating from vein to vein, and insinuating itself into all the organs, in order to destroy them as soon as they can no longer oppose its power? Must we create a like identity to explain how the same forms of irritation are so repeated in the system? Is it believed that a virus passes from joint to joint, in erratic rheumatism? If so, have any specifics ever been thought of to remove it? Should the practitioner involve himself in useless conjectures in inquiring into this first cause? Will he not determine to leave to men of less knowledge the trouble of seeking out a cause, which, if it were even possible to discover, would shed no light on the treatment which should be adopted? Besides, would he not be obliged to return to the study of the phenomena in order to oppose them; and in most cases, is it not proper to disregard the cause, and attend only to its effects? Where is the necessity of a virus, of vitiations of the blood or humors, of acrimony, or deleterious ferment, in practice, based on the theoretical principles we have held forth?

"Were we to ask the partisans of the venereal virus to explain, in their turn, how this virus is destroyed by antiphlogistics? were we to ask them how a virus, which of course should always be the same, can produce several forms of irritation in men who have been enfeebled by it from the same source, and how they can account for the spontaneous production of syphilitic diseases? what could they reply? These are incontestible facts, and yet cannot be accounted for by their theory."

In answer to the first interrogatories, little need be said. The correctness of practice does not depend upon the theoretical principles affecting the nature of disease; that must be governed by the symptoms alone. It matters not, for instance, what the exciting cause of a fever may be, whether it is miasm or meteoration, the vicissitudes of the seasons, or any internal or external accident. The eruptive fever of small-pox, and the inflammatory fever of pneumonia, both require similar remedial applications, varied only by the difference of the local effects of the disease. The contagion of the first, and pure inflammatory character of the last, have nothing to do with the indications for such an adaptation of treatment as shall reduce the general excitement, remove local congestions, or correct disordered secretions. These are the first and important points for consideration in practice, and, to be treated with propriety, a knowledge neither of the existence of contagion, nor of inflammation, is absolutely requisite. The symptoms, abstracted from these circumstances, are sufficient for our government. In the first, do we place our patient under a plan of treatment which either only alleviates the present violence of the disease, or prevents its progress, because that disease is contagious? Assuredly not; nor do we bleed in pneumonia because simply it is an inflammation; if we did, then, to be consistent, we should bleed in all inflammations, which is by no means the case, for simple means are often sufficient to effect the desired result. Experience has taught us, that both of these plans best answer the common indications just mentioned, independent of any speculative notions of the nature of the maladies. Judgment will vary the modes of treatment, but the principles, to be correct, must be immutable.

But we are asked to explain how this virus of syphilis is destroyed by antiphlogistics. In reply, we must first recur to the characteristics of chancre and a simple running. In gonorrhœa we have an inflammation, and, occasionally, minute eruptions, ordinarily affecting the urethra internally, or glans penis externally, with extravasation of a vitiated and peculiar secretion; constitutional excitement is scarcely or never felt, and the local determination is of minor importance. In chancre, a lesion of the soft parts is shown, the secretion is also peculiar, but more virulent, and from absorption is capable of affecting the system generally, and often violently; the immediate effects are more extended, and the remote consequences more frequent, than in gonorrhœa. There are many varieties of lues which our purpose does not require to have noticed here. The qualities of the secretion, general appearance of the eruption and sores, and the contingent effects, we have also intentionally omitted. Now, as in gonorrhœa there is ordinarily an absence of violent symptoms, according to the indications just mentioned, we have only to overcome that specific morbid condition of local organization, productive of those unnatural secretions, which give a peculiarity to this disease. The congestion and general excitement here are nothing; hence,—as from these circumstances it naturally would be deduced,—the cause of the running must be comparatively light. Insisting upon a specific poison as this cause, and seeing that its effects are not constitutional, it consequently follows that its nature is not so virulent but that such a modification of the diseased action may readily be produced, as shall give the organic principle an opportunity to expel offending matters, and restore itself to a healthy state. The exertion of this power of the system to free itself from incompatible substances is a fixed physiological principle, and is most evident in those diseased actions to which syphilis is allied. "To me," says Mr. Abernethy, "it seems absurd to attempt to cure diseases in general, when produced by specific poisons. Can we cure small pox, measles, hooping-cough, or infectious fevers? The answer is, No; we can only mitigate their effects; and it appears to me that the same principle should govern us in our treatment of gonorrhœa." Without coinciding exactly with this opinion, or being permitted by our limits to amplify the subject, still we may ask, whether in connexion with the character of the disease itself, the inherent sanative disposition and power of the living organism, and the foregoing analogy of its effects, an antiphlogistic plan of treatment is not sufficiently effective for the destruction of this virus? Respecting the mode of this result, whether it be by elimination, dilution, or positive loss of its essential power, it is not necessary to inquire, it is enough if it can be believed that its peculiar influence is destroyed.

These remarks are equally applicable to chancres, the difference of symptoms being owing to circumstances, in accordance with the established axiom, that in all cases effects must depend on the force and degree of the cause, and the nature and condition of the recipient body. Thence it follows, that if the treatment have a relation to this difference, its effect in chancre must be similar to that in gonorrhœa; for, as the essential property of the cause in both instances is the same,—as we have already seen in the cases of Hennen and Vigarous,—the quality of the remedial agents is not altered, the difference being only in regard to the necessity and constancy of the use of their application.

Much of what we have said in the course of our remarks will apply to the remainder of M. Desruelles' questions. Our attainable knowledge on subjects similar to that of the spontaneous production of syphilis, must be limited to effects. We see those effects, and we know that the same causes which preceded their developement in the first instance, must be existing at the present day; it is idle to suppose otherwise. What these conditions are which are necessary to originate the specific morbid actions of syphilis, can only be conjectural, and it would seem more consistent with wisdom, honestly to confess our ignorance, than to attempt to unravel them by such a mode of reasoning.

Without farther digression, we hasten to notice the practical application of the principles of treatment enforced in this volume; these, observes M. Desruelles, consist "in opposing one modification to another, to destroy the existing organic disposition." This may be done either by a stimulating or asthenic method. Mercury belongs to the former, as it acts by opposing a stimulation to an irritation already existing. In small and repeated doses this is undoubtedly its effect, but there is a mode of administering it in which the result is directly the reverse. From careful observation we are convinced that large doses of calomel are sedative, and one of the best means of quieting pain and irritation, and subduing inflammation of the mucous membranes. In the ordinary manner of prescribing mercury in syphilitic affections, it often proves more injurious to the constitution than the disease itself would, if left without interference. A judicious use of it, however, both locally and internally, may possibly prove necessary in some cases, particularly, we think, in secondary diseases. The consequences which have rendered it so obnoxious have arisen from its indiscriminate use; and it is this which has led to the modern inquiries on the subject, and the just conviction has followed, that the asthenic method is fully equal to the results desired, and by far the most eligible in practice. We pass over some erroneous observations on the necessity of banishing all belief in the existence of a venereal virus, if we wish to succeed with an anti-mercurial mode of treatment. This is an absurd notion, perfectly at variance with every correct principle of practice. In concluding this part of the work, the author notices the advantage arising from a constant sub-excitation of the digestive canal; this, he observes, is extremely serviceable in the treatment of syphilis. Connected with this, the removal of causes which add to the irritability of the system is insisted upon; whether physical or moral, their effect, as in every other disease, is always injurious. Finally, he says that—

"Simple methods are generally the most efficacious. The treatment of venereal diseases without mercury, leaves no doubt of the solidity of this maxim. By multiplying complicated indications, these diseases become more obstinate: on the contrary, by employing a simple and rational method, the cure is easily effected; and this method will be found the more productive of happy effects, in proportion as the plan is simple."

We cannot do better than to give M. Desruelles' preliminary remarks to the practical portion of his work, in his own words. These precepts he considers of much importance in testing the value of the anti-mercurial treatment, they are therefore worthy of quotation.

"We have remarked, that the use of fat broths, meat, fish, and fermented drinks, retard the cure of venereal symptoms, because such substances stimulate the gastric passages, and postpone the period when the curative modification should take place. Very light soups, dried prunes, baked fruit, fresh eggs, milk as a constant drink, and in certain cases as an aliment, are the substances which should constitute the diet of the patients, until the symptoms begin to advance towards the cure; then a small quantity of bread, say two or three ounces, with light aliments, vegetables prepared with butter, eggs, baked fruit, and cream and milk, may be allowed. At a later period, when the symptoms are about disappearing, the quantity of food may be augmented, say five or six ounces of bread. When the cure is perfected, ten or twelve ounces of bread, with a piece of fowl, light broths, beer, or even wine, may be administered. In short, the patients must gradually be brought back to their usual way of living; but diet must still be attended to for some time after the cure is effected—no pure wine, coffee, liquors, or tea, must be used; exercise must be moderate, and venereal pleasures entirely abstained from, or enjoyed very cautiously.

"In prescribing this regimen, every thing must be considered—the age, idiosyncracy, and strength of the patients, the food they are accustomed to, the complication of affections, of visceral irritations under which they may labor; the intensity of the symptoms, particularly the date of the infection, and the treatment they may have undergone or commenced upon. The regimen must be observed with the greatest exactitude, and during a longer period, if the patients be weak, lymphatic, of adult age—if they have used stimulants to excess—if the infection be not very recent—if the symptoms manifest themselves with intense phlogosis—if they occasion abundant suppuration—if the temperature be warm and dry, and particularly in spring and autumn. In the contrary case, the food may be less strict, and of less duration. In fact, under some circumstances, a few days rest may suffice for the cure, when the affection is very recent, the symptoms but slight and superficial, and there is reason to believe that the system generally has not been modified by their influence.

"Diluent drinks, such as decoctions of barley, liquorice, dogs' grass, flaxseed, &c. sweetened with sugar or honey, should be administered. In summer, lemonade may be given to allay thirst; in the spring, vegetable broths and milk whey are very proper."

Confinement in bed, particularly in winter, is recommended; perspiration is thus kept up, and the effects of cold, dampness, and changes of weather, are avoided. If exercise be sometimes useful, the patient must be well clothed. Under certain restrictions, the use of the warm bath will be found beneficial; "it must be rejected when there exists deeply irritated phagedenic ulcers, very intense balanitis and posthitis, large and inflamed serpiginous ulcers, cephalalgia, painful periostoses, or great general debility. The cold bath should in no case whatsoever be prescribed." When the cutaneous symptoms are no longer accompanied by inflammation, sulphurous or vapor baths must be used. In secondary symptoms, the author insists upon a milk diet, and even "abstinence from alimentary substances," until the inflammation no longer exists. After such a plan has been pursued, in connexion, if necessary, with general and local bleeding, baths, and emollients, then simple sudorific sirups and sarsaparilla ptisans may be directed. Opium and hyoscyamus are of great service. If these "cause constipation, heaviness of the head, or slight vertigo; if during their administration, tetters, pustules, reddish or brown spots, pimples, or boils, should come out upon the skin, we must immediately return to simple treatment."

*Balanitis.**—In this symptom, attention to cleanliness generally suffices. If the lotions used, which should be emollient and luke-warm, be at too high a temperature, the irritation of the glans and prepuce may be continued or reproduced. Cold lotions sometimes produce buboes. When the inflammation is reduced, a weak solution of the sulphate of copper, or sub-acetate of lead, or cold water, must be used as a wash.

"If the opening of the prepuce be accidentally or naturally contracted, emollient injections are indispensable. A piece of fine linen rag is introduced between the glans and prepuce, to prevent their immediate contact."

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* Inflammation of the glans penis, from *βαλανος*.

Posthitis.[*]—Local bleeding is not advisable, if the prepuce be much swollen, of a purple color, and attended with much pain. Gangrene might be occasioned by the application of leeches to the part; they may be applied, however, with advantage, to the perineum, pubis, or groin. If the swelling be œdematous, vegeto-mineral lotions may be used, in connexion with compresses and bandages. There is always a difficulty in distinguishing the nature of the discharge, when the prepuce is so closed as to prevent an examination, whether it be from simple balanitis, or from ulcerations. The diagnosis is useful, as it indicates the course of treatment to be adopted in each species.

"We have remarked, that in simple posthitis, or posthitis attended only with superficial ulcerations, the pus is of a yellowish color, thick, homogeneous, and of a strong smell, resembling the matter which comes from the canal of the urethra in acute urethritis.

"On the contrary, in acute posthitis, complicated with deep ulcerations of the glands, frænum, and internal surface of the prepuce, the redness of the cutis is more remarkable in some places than others; pressure with the finger causes considerable pain; the purulent matter is of a dark grayish color, not very thick, nor is it homogeneous; it presents a considerable number of little whitish specks, similar to those sometimes seen in the follicles of the amygdalæ. These specks may be distinguished by the naked eye, but are better seen when the purulent matter has been spread on dark paper. The odor of the pus is strong, disagreeable, even fetid; its nature is so irritating that it sometimes ulcerates the whole circumference of the opening of the prepuce."

Operation of Phymosis.—This may be by longitudinal incisions, or by circumcision. The indications for the adoption of either mode are so well known, that it is only necessary to extract the following from M. Desruelles' observations on the subject.

"It has been advised by some, to cut only a portion of the prepuce; nay, even to divide only the internal membrane. Both these operations should be rejected; we have frequently performed them, and the consequence has always been an inflammatory tumefaction. The external membrane which has been left remaining, soon becomes inflamed, and very tense; the consequence is, an intense posthitis, the violent pain of which augments the irritation of the ulcers; a copious suppuration comes on, and the portion of the prepuce intended to be saved, becomes ulcerated, or even gangrenous. The latter consequences, of course, do not always occur, but inflammation inevitably results. They do not occur in ordinary cases, when the incision of the external and internal membrane has been extended beyond the glans; but even in this case, if the incision has not been made completely through the external membrane, the frænum, which remains, inflames, ulcerates, and the two lateral sores present a very bad aspect."

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[*] Inflammation of the prepuce, from ποσθη.

Paraphymosis.—The usual manner of reducing the glans from behind the stricture is recommended; to knead the organ to as small a size as possible, and then compressing the border of the swollen prepuce with the thumb and index finger of the left hand, press upon the glans in every direction, with the intention of causing it to pass under the edge of the prepuce. The author is "of opinion, that in no case whatever should incisions of the prepuce be made, or leeches applied," in paraphymosis.

Urethritis.—In acute cases, general and repeated bleedings are advised, together with restrictions to a very low diet, cooling drinks, and the application of fifteen or twenty leeches to the perineum. Should the inflammatory symptoms not yield to this, leeches must be applied to "all parts of the canal of the urethra, where sensibility is manifested. Demi-baths, emollient and narcotic enemata, the use of nitrous emulsions, and of pills compounded of camphor, nitre, and extract of hyoscyamus, assuage the erections, allay the pain, induce sound sleep, and prevent chordee. Great advantages result from the frequent use of emollient injections." After the pain has subsided, and no inconvenience is felt from the passage of the urine, injections of wine and water are recommended. Among other remedies, the following are thus spoken of:—

"We have several times administered two, three, and four drachms of the essential oil of copaiba, sent to us by Mr. Du Bland, the pharmaceutist, to test its effects. This new remedy, for which we are indebted to this distinguished chemist, possesses, in a small volume, every advantage of the balsam copaiba, without any of its inconveniences. By dropping into it a little sulphuric acid, it becomes of a lively red color, and loses its disagreeable smell. It is administered in any gummy potion, slightly aromatised. Injections composed of deuto-chloride of oxide of sodium, in ten or twelve parts of water at first, and subsequently, in six or eight parts of water, have been useful in some cases. Should the deuto-chloride of oxide of sodium renew pain in the canal, a small quantity of the solution of opium may be added to the injection. The oxide of iron, in conjunction with opium, has sometimes appeared to us to be efficacious, particularly with lymphatic men, of fair complexion. When the inflammatory symptoms of urethritis are, in the first instance, opposed with energy, there is no occasion to resort to any revulsive measures to stop the blenorrhagic running, as it will cease of itself in a few days."

It occasionally happens, that the copaiba produces a cutaneous eruption, similar in appearance to measles, and attended with much itching. Baths, and a regulated diet, will cause its disappearance. The tincture of iodine has effected cures, but it is an uncertain remedy, and sometimes occasions disagreeable consequences. The result of M. Desruelles' practice induces him to place his dependence upon antiphlogistics, to the almost total abandonment of revulsives; these, he thinks, are rarely indicated in urethritis. The greatest success is to be anticipated from the repeated applications of leeches to the perineum, with baths, vegetable and mild regimen, and wine injections. This plan is equally applicable to chronic urethritis. Leeches, when applied to the penis, will sometimes be productive of an infiltration of blood in its cellular tissue; the organ becomes tumefied, and œdema follows. This is of but little importance; it will disappear spontaneously, or from the use of compresses, wet with solutions of the mineral acids, or vinegar and water.

The viscosity of the running is sometimes consequent upon strictures. When this is the case, it will be necessary to cauterize or incise them, or to dilate the canal by the use of hollow cylinders of silver, one or two inches long, for the purpose of dilating the stricture without acting upon the sound parts of the urethra. To exemplify the advantage of such permanent dilatation, a case is related, the history of which is interesting. We are precluded from making the extract in this analysis; our readers will find it, however, among the articles in our Periscope.

Blenorrhagic Ophthalmia.—If it be not for some specific effect, we cannot imagine why copaiba is preferred to other remedies as a cathartic for the relief of this symptom. Does not the author forget himself here? Copaiba may be a good purgative, but by no means comparable to many more popular ones. M. Desruelles applies leeches to the inner surface of the eye-lids. If ulcers appear upon the cornea, their cure may be effected by the application of the nitrate of silver, in substance. We would also recommend the use of this remedy to the inner surface of the palebræ; and where the eye has been closed, we have also applied it over the external surface, with beneficial results. As a local application, in very many cases, we know of nothing superior to the lunar caustic. For much valuable information on this subject, we can refer our readers to the very practical work of Mr. Higginbottom.

Orchitis.—The danger apprehended from the puncture of the veins of the scrotum, by leeches, we think is groundless. We have opened them with the lancet, and have never found much difficulty in stopping the flow of blood, by pledgets of lint, and a recumbent position of the patient. At the worst, they may be cauterized without impeding the resolution of the disease. With the use of baths and emollient fomentations, leeches are applied, with an interval of one or two days, until the testicle gives no pain upon pressure. When this has ceased, and there is remaining an indolent swelling of the testicle and epididymis, the continued use of fomentations, prepared with a strong solution of the sub-carbonate of soda, "seldom fails of success,—the cure is prompt and sure." The effects of this application, it would appear, are such, that the experience the author has had with it, induces him to believe, that its long-continued use might, in the case of orchitis on one side only, produce atrophy of the sound testicle. Fistulæ ensuing upon orchitis, require leeches, light diet, time, and patience.

> "Should the treatment we have indicated for the cure of orchitis, both acute and chronic, be generally adopted, the number of cases of sarcocele will be considerably lessened; the necessity of extirpating the testicles, an operation sometimes rendered necessary by these disorganizing affections, will likewise be of rare occurrence."

Ulcers.—It is not necessary to repeat here what has already been said of ulcers; we shall, therefore, only notice the following observations on the treatment of phagedenic ulcers.

> "When the bottom is grayish, and a false membrane of an obscure white or slate color covers the interior of the ulcer; when the pus which exudes has a disagreeable smell, and is of a grayish color; when, in short, the ulceration presents the aspect of ulcers complicated with hospital gangrene; lotions with the chloride of oxide of sodium, or of calcium diluted, must be frequently used throughout the day; these ulcers must be dressed with linen steeped in the solution of opium, if the edges be swollen and painful, or in chloride of sodium, if they be not. We never employ pledgets of lint, because they act as foreign bodies."

*Adenitis.**—Although in the preceding part of this review we have given the author's views of the nature and character of buboes, still it may not be unimportant to give the indications for their treatment, as we find them concisely repeated. We feel confident that if these were well stored in the memory of the physician, he would be saved from much trouble and impatience. The treatment, as in every other case, must be left to his judgment; we only present that which the extensive opportunities of M. Desruelles has enabled him to demonstrate, as what, under all circumstances, is considered the most eligible. The confidence to be placed in the opinions and practice of the author, can only be appreciated by reason and individual experience.

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* Bubo, from αδην, a gland.

> "If the adenites be primitive, and only developed within a few days, or if they be the result of a slight balanitis, of superficial ulcerations of the penis in robust men, and if they be accompanied with redness of the skin, and but slight swelling of the ganglions, they are super-aponeurotic, and their resolution is easily effected by general and local bleedings, the application of vinegar and water, of the sol. sub-carb. sodæ, or of pounded ice. But if they be consecutive, and of more than eight or ten days standing; if they be accompanied by intense balanitis, and numerous deep ulcers; if the sub-aponeurotic ganglions be in a state of great irritation; if, in short, the pain experienced by the patient be exquisitely painful, although the skin be scarcely altered in color, these adenitis are sub-aponeurotic; their seat is in the deep ganglions of the groin; an abscess is already formed; suppuration must ensue; resolution is no longer possible. In this kind of adenitis, local bleedings are frequently employed to excess, with the object of effecting their resolution. The first applications of leeches diminish the inflammation, but the pain still obstinately continues, and its seat indicates to the practitioner the situation of the abscess. It must be opened as promptly as possible, by making a puncture with a lancet; from the opening there exudes an abundance of pus mixed with blood, or of a reddish color, the quantity and quality of which indicate the depth and extent of the abscess. The dressings consist simply in frequently reiterated emollient fomentations."

When the bubo proves indolent, it must be rubbed with the tincture of iodine, or the ointment of the hydriodate of potash. In case the adenitis is irritated by visceral derangements or bad treatment, and the edges present a hard, inverted, painful, thick edge, good results have been obtained from the application of four or five leeches to the ulcerated surface; but if the inflammation continue, narcotics are of service in subduing the irritation. If from this a slight narcotism be effected, it is a good sign; the progress of the cure is daily visible. Emollient and other poultices keep up the tumefaction of adenitis, and may be advantageously dispensed with.

Vegetations on the Penis.—When "large, very red, and painful, we apply to them a few leeches, and repeat this local bleeding until the vegetations have become invisible." If the local bleeding be omitted, lotions, emollient and narcotic fomentations, and local bathings, allay the excitement. They are made to dry by the application of a solution of opium several times in the course of the day. To accelerate this effect, incisions were made in them with a lancet or scissors.

Vegetations about the anus, perineum, and scrotum.—The same means are used for the removal of these as the preceding. Excision and cauterization, in both, are more hurtful than useful. When, however, the base of the vegetation is large, and does not readily detach itself from the part on which it is fixed, its separation may be hastened by the use of nitric acid, or an alcoholic solution of potash.

Pustules, copper-colored blotches, and spots on the skin.—"Simple bathings, lotions, with a decoction of narcotic plants, sulphurous baths, and vapor baths, generally suffice to remove these symptoms, when the internal treatment has altered the morbid modification. We have frequently remarked, that every thing which increases the action of the skin is detrimental to the cure of these symptoms."

Tetters.—Gastric irritation is indicated in connexion with these, when they are large and numerous, and form thick crusts. Beneficial results follow from the application of leeches to the epigastrium, and to such parts of the tetter as show much irritation. After the gastric irritation is removed, and if the patient is not costive, nor inclined to lethargy, nor his skin dry and hot, opium may be advantageously administered. The external remedies are merely oily fomentations, if the crusts are thick and hard; emollients, if the tetter be painful; simple lotions and fomentations, if the seat of the eruption be neither hot, nor tense, nor painful.

Inflammations and ulcerations of the veil of the palate, amygdalæ, and posterior coat of the pharynx.—The local application of leeches is recommended. The manner of thus applying them has been frequently noticed in medical journals; it would be useless, therefore, to introduce the author's directions in this analysis. We notice nothing peculiar or different from the ordinary mode of treating these painful and often very serious affections, with the exception, perhaps, of the following: "Blisters on the nucha, or to the neck, are pernicious. They are rarely of any use towards the conclusion of the disease. Large poultices applied warm entirely around the neck, produce very happy results."

Phagedenic, serpiginous, carcinomatous ulcers of the lips, face, limbs, with caries of the cartilages and bones of the parts.—These, with the ulcerations noticed in the foregoing paragraph, are almost always the result of mercurial abuses, or of irritating dressings, and, as the author says, particularly of the employment of escharotic substances. Every case which he has seen of the above painful affections, is said to have followed after several mercurial courses, in connexion, at the same time, with constant irritation of the gastric passages, and the use of a stimulant diet. It is certain that almost every instance met with is of long standing, and we coincide with M. Desruelles in believing, that such cases are almost always ensuing upon the repeated and mal-administration of mercurials. A case came lately within our knowledge, where a professional man has a ruined constitution, and even the certainty of an early death, in return for a simple excoriation, for which he was made to submit to a course of salivation, which was followed by a second course, for the relief of a mercurial cachexia, produced by malpractice in the first instance. This is but one out of a thousand cases, which are constantly occurring, to the disgrace of the medical profession, and the crimination of those individuals, who, in spite of accumulated facts, will blindly persist in the belief of the absolute necessity of giving mercury in every case of venereal diseases. But ignorance and indolence, we know, will continue to follow in the beaten track, though it were made tenfold more disgusting than it now is, by the mutilations and noisomeness consequent upon such practice.

In the cases now under notice, our author observes, that the greatest advantages are derived from the "treatment by hunger." Sarsaparilla ptisan, refreshing drinks, milk diet, complete tranquillity, and opium, (when there is no visceral irritations,) are requisite in the treatment. The inveteracy of the symptoms demands the utmost patience and continued care of the medical attendant.

> "He must vary these measures; observe their effects; suspend them; return to their use; remove any inconveniences which may result from their prolonged use; return at times to the simple treatment; have patience to wait; be not too hasty to act; relieve the dejected spirits of the patient; dissipate his fears; encourage his hopes; and manifest, though in the greatest danger, that calmness so essential to inspire with courage the poor sufferer, who places all confidence in him. By following these precepts, the cure is despaired of only when the disorganization of a viscus has taken

place, or is about to do so; or when the patients are so much reduced by internal affections, or the abuse of mercurials, that it is no longer possible to treat these affections by the proper measures, without endangering the existence of the patients. In such cases, if it be prudent to let them travel, recommend to them a change of air, to observe the hygienic rules which suit them, and to nourish themselves with milk alone, without any other remedy.

"It is always difficult to obtain the curative modification, when the external affections have made rapid progress towards disorganization. Whole years must be devoted to that object, with the most courageous perseverance."

Exostosis, periostosis, and caries.—These two are considered as the common effects of the misapplication of mercurial remedies. True exostosis, says the author, is rarely met with, and its cure is always difficult. With periostosis it is different; frequent local bleedings soon remove the pain and swelling of the limb.

We have now passed under review every form of venereal diseases, and in the summary manner in which we have endeavored to bring the subject before our readers, we trust enough has been offered for their perusal, to awaken attention to the subject. It now remains for us to give, in conclusion, the documents appended to the volume before us, for the purpose of showing the eligibility of the antiphlogistic plan, both in its permanency of cure, and freedom from any subsequent evil effects. The latter, indeed, requires no proof, for its innocuousness is self-evident. These comparative tables, we think, will be evincive of every other fact necessary for the formation of a just opinion on the subject.

1st. The official report from the *British Army Medical Department*, has long been before the medical world, and, therefore, instead of unnecessarily infringing upon our limits by giving the document in its original form, we present the substance of it, as we find it, concisely prepared by the American editor, in his preparatory remarks. We turn back, therefore, to page vi.

"In the official report of Sir James M'Grigor and Mr. W. Franklin, it is stated, that the average period required for the cure of primary symptoms, without mercury, where buboes did not exist, was twenty-one days, and with mercury, thirty-three days.

"That the average period for the cure of primary symptoms, with bubo, was forty-five days when treated without mercury, and fifty days when treated with mercury.

"That the average period of cure of secondary symptoms, without mercury, was from twenty-five to forty-five days, and with mercury, fifty days.

"When it is recollected that these results are derived from the observation of nearly five thousand cases, they must be admitted to afford very fair means of comparison, and to possess a high degree of value."

From the same report, it appears that in those cases treated without mercury, secondary symptoms occurred in not quite five per cent., whilst in those who had undergone a mercurial course, these symptoms followed in the rate of nearly two per cent. It is also worthy of particular notice, that "of nearly two thousand cases reported by Sir James M'Grigor, as cured without mercury, every man was fit for immediate duty on dismissal from the hospital; whilst of those treated with mercury, one man was discharged the service on account of the injury his constitution sustained from the remedy; and another, after treatment of secondary symptoms by mercury, in consequence of that complaint."

From the military hospitals of Val-de-Grace and Strasbourg, in France, and Würtzburg, in Germany; from the general hospitals of Hamburg and in Sweden, and the naval hospital of Philadelphia, the comparative results are presented in so concise a manner, that we give them entire.

"2d. *Military hospital of the Val-de-Grace*—by M. Desruelles.—Of 1312 men admitted into Val-de-Grace, with syphilitic diseases, between the first of April, 1825, and 31st of July, 1827, 1084 were treated for primitive symptoms, and 228 for consecutive symptoms, chronic and mercurial, simple and complicated.

"Of the 1084 affected with primitive symptoms, 386 were treated with mercury—mean duration of treatment, forty-seven days. Of these 386, 189 were put upon an animal and stimulating regimen—mean duration of treatment, fifty-one days. 197 were put upon a vegetable and mild (adoucissant) diet—mean duration of treatment, forty-two days.

"The 698 others were treated without mercury—mean duration of treatment, twenty-eight days. Of these 698, 62 were put upon an animal and stimulating regimen—mean duration of treatment, fifty days. 636 were put upon a vegetable and mild regimen—mean duration of treatment, twenty-five days.

"Of the 228 men affected with consecutive symptoms, chronic or mercurial, 75 were treated with mercury—mean duration of treatment, sixty-seven days. Of these 75, 33 were put upon an animal and stimulating diet—mean duration of treatment, eighty-two days. 42 were kept upon a vegetable and mild diet—mean duration of treatment, fifty-five days.

"The 153 others were treated without mercury, and all were kept upon a vegetable and mild diet—mean duration of treatment, forty-five days.

"Thus, of 1312 patients, 461 were treated by mercury, viz. 386 for primitive, and 75 for consecutive symptoms, chronic and mercurial. The mean duration of treatment was fifty days. 851 were treated without mercury, viz 698 for primitive, and 153 for consecutive symptoms, chronic and mercurial; and the mean duration of treatment was thirty-two days.*

"M. Devergie has treated between 1819 and July, 1829, about 800 syphilitic patients without an atom of mercury; not having notes however of all of them, he is able to report only 571 cases. Of these, 208 were treated in the Military Hospital of the Val-de-Grace, 90 for primary affections, and 118 for secondary affections. 571 were treated in private practice, 275 for primary affections, and 88 for secondary.†

"He does not state the length of time required for the cure, or other particulars.

"*Military Hospital of Strasbourg.*—There were treated in this hospital for venereal disease, by M. Richond des Brus, between the 1st of April, 1822, and the 16th of August, 1824, 2805 patients.

"Of these, 1167 were treated with mercury,—1161 for primary symptoms, and six for secondary symptoms.

"1638 were treated without mercury, 1443 for primary, and 148 for secondary or mercurial affections.

"Of 1150 patients admitted into the hospital between the 1st of April, 1822, and the 1st of March, 1823, 325 were affected with gonorrhœa; the remaining 825 were treated with mercury.

"Of the 1655 patients received into the hospital between the 1st of March, 823, and the 16th of August, 1824, 309 were affected with gonorrhœa.

"Of the 1346 remaining, 342 were treated with mercury, so that between the 1st of April, 1822, and the 16th of August, 1824, 1167 were treated with mercury, and 1004 without mercury, the gonorrhœal cases being deducted.

"When M. Richond left the hospital, 82 patients remained under treatment, 57 of whom did not use mercury, the remaining 25 were under its use.

"Of the 947 soldiers cured without mercury, 325 were affected with primitive ulcers; 273 with ulcers and buboes, or buboes alone; 201 with ulcers, attended with phymosis, paraphymosis, and tumors; 148 with symptoms of confirmed syphilis, either primitive or secondary.

"Of 317 patients treated with mercury, subsequent to the month of March, 1823, 188 were affected with primitive ulcers; 106 with ulcers and buboes, or buboes alone; 23 with ulcers and phymosis, paraphymosis, or symptoms of confirmed syphilis.

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* Mémoires de Médecine, Chirurgie et Pharmacie Militaires, Tom. XXV. See also, American Journal of the Medical Sciences, Vol. V. p. 503.

† Annales de la Médecine Physiologique, Tom. XVI. p. 4501.

"*Duration of Treatment.*—Of the 325 patients affected with primitive ulcers, and treated *without mercury*, the duration of treatment

in 48	was from 5 to 10 days.
90	11 to 20
45	21 to 30
28	31 to 40
8	41 to 50
4	51 to 60
2	61 to 80

"Of the 188 patients affected with primitive ulcers, and treated *with mercury*, the duration of treatment

in 3	was from 5 to 10 days.
18	11 to 20
30	21 to 30
52	31 to 40
45	41 to 50
22	51 to 60
15	61 to 80
3	81 to 120

"Thus, of the 325 cured without mercury, only 42, or less than eight per cent., were under treatment more than thirty days; whilst of 188 treated with mercury, 137, or upwards of seventy-two per cent., remained in the hospital over this period.

"Of the 273 cases of buboes treated without mercury, 172 terminated in resolution—81 by suppuration; in the remaining 20, suppuration was established when the patients entered the hospital.

"Of 106 cases of buboes treated with mercury, 54 terminated by resolution—46 by suppuration; in the remaining six, suppuration was established when they entered the hospital.

"Thus the treatment without mercury produced resolution in a greater number of buboes, comparatively, than the treatment with mercury; and moreover, buboes appeared more frequently in those who were treated for primitive symptoms by mercury, than in those who were treated without mercury; thus, of 208 patients treated for primitive symptoms by mercury, 16, or nearly seven and two-thirds per cent., were attacked with buboes, whilst of 526 treated without mercury, 36, or about six and four-fifths per cent., exhibited engorgements of the ganglions.

"Of the 273 patients affected with buboes, treated without mercury, the duration of the treatment

in 24	was from 5 to 10 days
68	11 to 20
66	21 to 30
50	31 to 40
29	41 to 50
19	51 to 60
13	61 to 80
4	81 to 120

"Of the 106 cases of buboes treated with mercury, the duration of treatment

in 3	was from	5 to 10 days.
7		11 to 20
19		21 to 30
40		31 to 40
20		41 to 60
10		61 to 80
3		81 to 125
4		126 to 200

"Thus, nearly sixty per cent. of those treated without mercury were cured in less than thirty days, whilst of those treated with mercury, only about twenty-seven per cent. were cured in that time.

"*Relapses.*—Of the 1142 cases cured with mercury by M. Richond, 63 were affected with secondary symptoms, about five and a half per cent.

"Of these, six had return of ulcers—one, return of ulcers, with ulcers of the throat—one, urethritis, following ulcers, and succeeded by ulcers and warts—one, return of ulcers and warts—seven, warts following ulcers—twelve, return of buboes—five, buboes following ulcers—nine, consecutive affections of the anus—three, affections of the anus, with ulcers of the throat—one, ulcer of the conjunctiva—eleven, ulcers of the bucco-pharyngeal mucous membrane—one, spots on the skin—one, pains of the bones, and spots on the skin—one, pustules and ulcers of the throat—one, extensive squamous eruption—one, inflammation of the bladder, prostate, &c.

"Of the 947 patients treated without mercury, only 24 had secondary affections, or two and a half per cent.

"Of these, two had return of ulcers—four, consecutive warts—six, return of buboes—four, secondary buboes—five, affections of the anus—two, affections of the mouth—one, pustules, callosities, and excrescence of the anus.*

"4th. *Military Hospital of Würtzbourg.*—Dr. Brünninghausen was among the first in Germany who attempted to induce his fellow practitioners to adopt the antiphlogistic treatment of venereal diseases. He commenced his experiments in 1819. For thirty years he had treated syphilis without mercury in the Military Hospital of Würtzbourg, and in a very extensive private practice, and not without success. Of course it was easy for him to compare the results of the old and new modes of practice. The success of this last was so great, and even so surprising, says Mr. B., that at first, seeing the calm and steady progress of the cures, he could scarcely believe his own eyes, and frequently charged the young physicians who accompanied him, to pay the most scrupulous attention, to prevent their being deceived, and that the patients should not use mercury in secret. The success became afterwards so common, and the patients were so strictly watched, that all suspicion of error vanished.*

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* De la Non-existence du Virus Vénérien, &c. Par Richond des Brus, Vol. II. See, also, the Review of this work in the American Journal of the Medical Sciences, Vol. II.

"In his work, entitled 'Veber die Lustseuche und ihre Heilung ohne Guecksilber,' published at Würtzbourg in 1826, he states, that he treated with success, in the Military Hospital at Würtzbourg, from May, 1819, to February, 1820, 100 persons. Of whom, 82 had primary, and 18 secondary symptoms, by antiphlogistics alone, without any mercury.

"Dr. Besnard, of Munich, Burtz and Becher, of Berlin, Huber, of Stuttgard, and Wendt, of Copenhagen, employ the antiphlogistic treatment, and have published their experience, which is highly favorable. Wendt says, 1st, that in many cases the venereal disease may be completely cured without mercury; 2d, that in debauchees, and persons in whom the disease is complicated with acute or chronic diseases, the antiphlogistic treatment is preferable, and is sufficient to cure the patient radically, whilst mercury in these cases produces serious evils.†

"5th. *General Hospital of Hamburgh.*—Dr. Fricke, of Hamburgh, has been equally successful with the treatment of venereal disease without mercury. Between July, 1825, and January, 1827, he treated 402 patients. Of these, 101 were males, and 301 females. 308 were affected with primary affections, 54 with secondary, and 40 with primary and secondary affections conjoined.

"Of the 308 patients affected with primary symptoms, the duration of treatment

in 237 was from 10 to 60 days.
60 61 to 110
11 121 to 181

"Of the 54 patients affected with constitutional symptoms, the duration of treatment

in 27 was from 10 to 40 days.
24 41 to 90
3 3 to 6 months.

"Of the 40 patients affected with primary and secondary symptoms conjoined, the duration of treatment

in 12 was from 11 to 40 days.
6 41 to 60
11 61 to 90
11 3 to 6 months.‡

"The average period during which these patients were under treatment, was fifty days, whilst formerly, under the mercurial treatment, they remained twice that period.§

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* La Clinique, May 21st, 1829.

† Annales de la Médicine Physiologique, Oct. 1829.

‡ Graefe und Walther's Journal.

§ Hecker's Litterarische Annalen, for 1827. See, also, La Clinique, Tom. IV. No. 20.

"Dr. Fricke, who has had the advantage of retaining under his observation the patients treated by him, has not yet observed any secondary symptoms.*

"6th. *In the hospitals of Sweden,* between the years 1822 and 1827, a period of five years, 16,985 patients were treated for venereal disease.

"Of these, 6148 have been treated by strict diet, 6017 of whom were cured, and 132 left the hospital without being cured. Secondary symptoms occurred in seven and a half per cent.

"7717 were treated with mercury, of whom 7636 were cured, and 81 left the hospital without being cured. Secondary symptoms occurred in 14 per cent.

"758 were treated by fumigations, with cinnabar; of whom 715 were cured, and 43 left the hospital not cured. Secondary symptoms occurred in twenty-two per cent.

"1090 were treated by local means, of whom 1055 were cured, and 35 left the hospital not cured. Relapses occurred in seven per cent.

"7th. *Naval Hospital at Philadelphia.*—Dr. Thomas Harris treated, without mercury, in the Naval Hospital at Philadelphia, 111 patients, only two of whom were affected with secondary symptoms, and those were cured without mercury. He has, besides, treated in private practice, 53 cases, in whom there did not occur, to his knowledge, a single instance of constitutional affection.

"He also treated successfully, without mercury, 23 cases of secondary symptoms, occurring in individuals who had been treated for their primary symptoms, by other practitioners, with mercury.

"Whilst, of 57 cases treated with mercury by Dr. Harris, on board the United States' frigate Macedonian, six were affected with secondary symptoms, while under the influence of salivation for the primary sores, and others were afterwards attacked with constitutional symptoms; the exact number is not, however, known, as Dr. Harris left the ship."‡

We feel a gratification in being enabled to lay these facts before the profession, and particularly those members of it who may not have an opportunity of perusing the work; and to the industry of the able ~~and industrious~~ editor of the American Journal of the Medical Sciences, we feel indebted for the many additions made to the original volume, the present edition of which is also enhanced in value, by containing the treatise of Mr. Guthrie, which first appeared in 1817. As it has never before, we believe, been republished in this country, Dr. Hays has done well in incorporating it with the work of M. Desruelles.

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* Graefe und Walther's Journal.

† Annales de la Médicine Physiologique, and the American Journal of the Medical Sciences, Vol. III. p. 232.

‡ See Dr. Harris's interesting paper in the N. A. Medical and Surgical Journal, Vol. I.

We recommend the work to the attention of physicians, for the whole subject is worthy of their consideration, as the question to be resolved, is, whether it be better to submit their patients to an acknowledged evil, because it is erroneously thought to be a necessary one; whether the trust confided in their professional skill shall be repaid by a perverse heedlessness to facts and rational deductions, and a consequent violation of their solemn obligation, that they "will do every thing in their power for the benefit of the sick committed to their charge;" whether the prospective of life shall in so many instances be made a gloomy and hideous sacrifice to a love of ease, and want of discrimination; or, whether they will give an impartial consideration to those improvements which experiment and practice have evinced as incomparably useful in meliorating the condition of the sick, and restoring the erring and unfortunate to society, without those startling marks of destroyed health, and lost self-respect, which have heretofore cast an almost indelible stigma of inefficiency upon an art whose supremacy should be unsuspected. G.

ART. IV. *Recherches sur les propriétés Chimiques et Medicales de la Racine de Kahinça; par* M. M. FRANCOIS, D. M., CAVENTOU et PELLETIER, pharmaciens, membres de l'Academie Royale de Médecine. Memoire lu a l'Academie Royale des Sciences (institut.) le 27 Decembre 1829. (Extrait du Journal general de Médecine, May 1830.) Paris, de l'imprimera de Crepelet, Rue de Vaugivand, No. 9. 1830.

Researches on the Chemical and Medical properties of the Kahinça Root. By Messrs. FRANCOIS, Doctor of Medicine, CAVENTOU and PELLETIER, pharmaciens, members of the Royal Academy of Sciences. A Memoir read at the Royal Academy of Sciences, (Institute,) the 27th December, 1829. (Extracted from the Journal General de Médecine, May, 1830.) Translated by JOHN BAXTER, M. D., New-York.

THIS little pamphlet, (if the article fulfils the expectations it induces us to raise of it,) will be no trifling help to medicine. Dropsy is a disease which has refused to yield to the materia medica, even when no organic disease has presented as one of the preceding circumstances concurring to it. We are here presented with a medicine of powerful influence in removing it, in the root of the kahinça, or cainana, a vegetable of South America. We will give what is made known of the medicine.

This plant, the kahinça, (chiococca racemosa, or anguifuga,) is said to have been long known as a diuretic to the natives, and used by them in dropsies. It derives its name from being employed for the bite of a serpent, called cainana. In Brazil, at Rio Janeiro, and on the banks of the Saint Francisco river, it is used against intermittents, pica, amenorrhœa, dyspepsia, and dropsy. According to Dr. Clemençon, who has penetrated into the interior, it is known there by the name of raiz freta, or black root. It grows in dry uncultivated spots, at a distance from the thickly inhabited parts. It is said to be tonic and bitter; the bark of the root is the part used in maceration, and decoction, and separates readily from the rest of the root, which is a white, insipid substance. The bark is hard and brittle, about a line in thickness. According to M. Richaud, who gives a description of the plant, in the Journal de Chimie Medicale for 1826, vol. 2, it is a shrub, of from five to six feet high, though sometimes growing to thirty feet, of the class pentandria, order digynia. The branches are slender, the leaves opposed, eliptical and acuminated, of a clear green color. The flowers are yellow, pedunculous, and straight; the calyx globulous and adhering. The fruit is a small, very white berry.

By chemical researches on the root, by maceration in alcohol, filtrating, evaporating, and re-dissolving in water and ether, and testing with acetate of lead, a greasy green matter was obtained, in which the whole active qualities were supposed to reside; a granular, insipid substance was also obtained, of the color of Spanish tobacco, soluble in alcohol. No means could obtain crystals from the green matter, except of acetate of lime. The bitter principle was finally crystallized, which, with three others, constituted the substances separated, viz., the green greasy matter, a yellow coloring matter, and a colored viscous substance.

The bitter principle is that in which the active properties appear to reside. Its crystallization was obtained, by boiling alcohol, and animal carbon, filtrating and evaporating. The crystals are slender, needle-shaped, and arranged like the muriate of morphine. There is no sensible odor attached to it. The taste, at first small, is soon developed. It is not changed at the heat of boiling water. In a glass tube, by the heat of a spirit lamp, it is decomposed. It is scarcely soluble in water, requiring more than six hundred times its weight. It is very little soluble in ether, but alcohol is its proper solvent, and best so when hot, and crystallizing by cooling. It reddens the paper of tournesol, the same as acids; it is dissolved, and acted upon by other acids. Acetic acid, at ordinary temperature, dissolves it; heated, decomposes it, and forms a gelatinous matter. As it has the properties of an acid, in reddening the paper of tournesol, we should expect it to unite with the alkalies, which is the case with regard to the volatile alkali, potash, and barytes. Saturated with lime, the solution is transparent; super-saturated, it becomes opake, but is soluble in alcohol. This offers a means of separating it, from its solution in water, by precipitating with excess of lime, until the bitterness disappears; collect the precipitate, and decompose with oxalic acid and boiling alcohol. There is another mode, to add the hydrochloric or acetic acid by drops to an aqueous decoction, which deposits the kahinçic acid slowly, but it is colored, and a quantity remains behind, and is lost.

In the employment of this root, for the treatment of diseases, it was given in powder, in extract and decoction. Thirty-two cases are given, in which it has been used, with various success, and for various purposes. Four of the five first cases go to show the purgative and diuretic effects of the medicine; in the other, although forty grains were given, no effect was produced. Twelve grains of the extract, in the fifth case, produced purging, as well as diuretic effects. In the first, second, and third cases, thirty grains of the powder produced purging. All the purging was obtained without colic pains.

Anasarca.—Ten cases are given of anasarca, treated by the root of kahinça, all of which were cured but three; of these, two were attended with disease of the heart; the other died, after taking a drastic powder, from a quack, which produced super-purgation. The twelfth is another case, in which there also existed an affection of the heart. We give a summary of this case. Madame Giraud, mantua-maker, forty-four years old, and well formed, was leuco-phlegmatic for five years. She was cured, by means of scarifications, but became subject to violent palpitations. Her menses have ceased for three months, since which, infiltration has commenced. Febrile action and moisture at night. Bowels habitually costive; urine small, sometimes clear, sometimes thick. The patient was bled generally and locally. 19th February. A drachm of the powder of the bark was given in two doses, in half a glass of white wine, without producing any effect. 20th. Same quantity in one dose, and no effect during the day, but at night there was an abundance of urinary discharge, followed by diminution of swelling. The 22d, two drachms of the powder in two doses, infused in water, produced two stools, abundance of urine, with further diminution of the swelling, but the palpitations continued. The 11th of March, being sent for again, found her in the same state. The same medicine produced similar favorable results; but the patient becoming disgusted with it, refused to take it, and the swelling returned, with pain in the loins, and leucorrhœa; two drachms of the powder operated on the bowels, and also produced a great flow of urine. The menses appeared next day, the swelling of the limbs subsided rapidly, and, in a few days, became of their natural size. The 27th August, Madame G. came to consult advice, with regard to the disease of her heart, but the anasarca had ceased.

Thirteen cases are also given of its use in ascites, some of which were complicated with anasarca and other diseases. The three first were not continued to the end. Four died, and the rest were either completely cured, or much ameliorated.

Four more cases are given of hydrothorax, two of which were not fully observed, and the other two were cured.

Two other cases are appended, treated by M. Bally, in which great benefit was derived from the exhibition of this root; the urinary discharge was greatly increased, with diminution of the hydropic swelling. In one of these cases, vomiting was excited, by almost every exhibition of the medicine.

The following are some of the observations made, upon the exhibition of this medicine, by the author of the pamphlet.

"From the preceding cases, it is established, that the bark of the root of the kahinça, given in powder, has very variable results: the aqueous extract, on the contrary, possessing all the qualities of the bark, and deprived of that which is useless, acts well, and constantly, in the dose of twelve, sixteen, or twenty grains; the action of this medicine is long to be perceived; it is necessary to continue it in use a long while. There is often an advantage in giving a concussion, by a single quantity, rather strong, prolonging this effect, by prescribing it afterwards in parts, three or four times in twenty-four hours. It is very commodious to administer, since we can, without diminishing its efficacy, eat a short time after having taken it. Given in injection, its purgative virtue is, perhaps, more energetic. (See case No. 9.) As to the effects of the kahinçic acid, they are more evident in a smaller dose. When it is proposed to exhibit the kahinçic acid to some one, to whom has been previously administered some violent medicine, whether a hydragogue, colchicum, or any other, it is best to let the patient rest for some days, in order to relieve the organs of the action of a stimulant so energetic; otherwise, the kahinça will produce no effect.

"It is impossible to contest the diuretic and purgative properties of the bark of the kahinça; for there is not a single patient, in whom this result has not been obtained, more or less distinct. The variations observed in the urinary or alvine evacuations, seem to depend upon the organ to which the medicine gives the preference in its whole action: if it operates with activity upon the intestinal tube, the diuretic properties were scarcely perceptible, and the purgative effect took place in a remarkable manner. Contrary effects were manifested, when the urinary apparatus received principally the influence of the remedy. We have several times seen this alteration of action in the same person. When the two properties are developed, the diuresis does not come on, until several hours after the cessation of the effect on the intestines. (See case three, twenty-five, and thirty-one.) But it is remarkable, that in almost all the cases, the urine has been modified in its qualities; from being rare, red and muddy, acrid and fetid, it has returned to its natural state promptly, and been evacuated in abundance, and with facility. We may observe that, with some individuals, there occurred uneasiness, nausea, even colic. These effects can only be attributed to an actual irritability peculiar to the patient; for there have been some, who experienced these symptoms after a light dose, and those who did not perceive them, after a much stronger dose. (See case seven.)

"To cure dropsy, is a problem very difficult to resolve. In fact, in the greatest number of cases, it succeeds to other very heavy diseases; the diagnostic of these affections, difficult to establish, is, however, very necessary, in order to be able to arrive at the cause, and to know to what kind of lesion the dropsy is owing. Thus, to delay the progress of the disease, to diminish its intensity, to lessen the sufferings, sometimes to suspend the action of the causes; finally, to gain time, and render existence supportable, this is, in most cases, all that the power of the art can effect.

"We do not pretend, as we have said, to propose a specific against this disease, but we give the kahinça as a good means, preferable to all those yet known; not that it will be more energetic than colchicum, squills, nitre, digitalis, sirup of nerpruu, and all the drastics; no; but it has not the heavy inconveniences, and fulfils the same indication. Further, the principal object of this memoir has been, to establish the medical and chemical properties of a substance, which, acting like the other purgatives and diuretics, is deprived of that which is hurtful in them."

[The first notice of this article was published in the New-York Medical and Physical Journal, for April, 1829; written by that learned naturalist, Dr. Samuel L. Mitchill, to whom specimens of the root had been sent from Brazil.]

ART. V. *The Dyspeptic's Monitor; or, the nature, causes, and cure of the diseases called Dyspepsia, Indigestion, Liver Complaint, Hypochondriasis, Melancholy, &c.* By S. W. AVERY, M. D. New-York: Elam Bliss, 111 Broadway. 1830. pp. 152. 12mo.

PROPORTIONATE to the deviations from the more simple modes of life, has ever been the required increase of attention to our habits. Refinement in social life has been said to be an accumulation of evils, and among these, no one presents a stronger contrast to the primitive condition of mankind, than the necessity for the preservation of health, which has grown out of this progress of civilization. The much vaunted "march of intellect," and the grosser march of gastronomy, have kept an even pace; and we are told, that romances and dyspepsia are, in some measure, the consequences of the luxurious and licentious ascendency of each. Whatever truth there may be in this, it is indeed an age of novelties; of these the passion for dyspepsia is paramount. Relief for gastric enormities, and peristaltic inactivities, is now dispensed from under the sign of Coke's head, and the high priest of indigestion issues his oracular charlatanry from amidst accumulated volumes of law and state statutes. Buchan, too, has been routed from the nursery library, by guides for the dyspeptic; and treatises on diet and regimén have become as necessary for the little arrangements of domestic life, as a child's nurse or caudle-cup. Revolutions are rife in the medical, as in the political world; the days of Scriblerus have almost returned upon us,—ancient things are becoming new, and the climax in dieting is only wanting in the recommendation of a nine month's confinement to goat's milk and honey, for the generation of children of wit, and the Lacedemonian black-broth for their after nourishment.

Popular works on dyspepsia and diet have been so frequently issued from the press, and so much has been written and said on the subject, that one would suppose man's besetting sin to be, the commission of abdominal improprieties, and that the labors of the medical enthusiast were specially to be directed against the heresy of gastro-enteritic distentions. The whole subject of these labors, in our opinion, has become too trite, and the continued theme of these cibarious monographs is too antiquated to afford much interest to the profession. We are told, however, that they are only intended for the general reader, and hence, as they become a profitable species of authorship, they are as prolifically offered to the community. To a certain class they possess much allurement; the hypochondriac, the timid, the habitual complainer, will seize upon them with avidity, and, notwithstanding the refectory style in which many of them are written, they will be perused with an inexplicable gratification,—a pleasure, indescribably connected with suffering.

From the acknowledged character of the work before us, we should not have noticed it, otherwise than in our bibliographical record, and, perhaps, the author would have preferred such a determination. There are, however, doctrines inculcated in it, which we have thought proper to notice; and, besides, it affords us an early opportunity to enter our protest against popular treatises on diseases, written by medical men of character, believing, as we do, that they are productive of incalculable mischief, and are a fruitful source of many applications for the relief of sufferings, solely dependent upon the superficial information thus gained. Experience has taught us, that it is not treating the subject too seriously, to ask, whether it is not trifling with infirmities,—whether it is not making human misery subservient to sordid interest, thus to pander to minds diseased with an absolute passion for imaginary evils, and to render more painfully acute the morbid sensibilities of those who are the real subjects of disordered digestion? Such are the almost invariable results of these popular works; they are the effects, which no one can have omitted to observe, who has been in the least degree familiar with this class of patients, for they have a peculiar facility of appropriating to themselves the most varied symptoms of the most incompatible diseases. We would inquire, too, whether it is not practising upon the good feelings and credulity of such readers, solemnly to assert, that all this is done with the "hope of lessening the sum of human suffering?" We are sceptics in this philanthropy;—we are wearied with this oft-repeated cant,—and when we see it practised by writers for whom we have otherwise a high respect, we blush for the boasted "dignity of human nature." This text may be repeated again and again, but it will be as repeatedly doubted by every reader of common sense.

It would be a notable evidence of inexperience, to deny the existence of such a disease as dyspepsia; but when it has been made to assume so many forms,—become a pretext for so many idle complaints,—has given an importance to so many trifles, and been the ready motive for so much deception, we have not been astonished to hear its existence doubted, even by physicians. For ourselves, we do believe, that a large proportion of the cases met with, are, in reality, either imaginary ones, or incomprehensible affectations of what is considered an evidence of fashion and refined ease. Repeated observation has confirmed us in this opinion.

The strong sympathy existing between the brain and stomach, and consecutively implicating the other chylopoetic viscera, causes these organs reciprocally to act upon each other, in fancied as in real disease; and when the puling complaints of the effeminate are met with at every step, and repeated with elaborate accuracy, it is not surprising, that the slightest sensation of uneasiness, of which the stomach is so extremely susceptible, should be placed to the account of this protean disease. There is, too, a morbid mental sensitiveness created by the constant attention to this one organ, which heightens the most trifling derangement into a source of serious alarm; and, as the indolent, sensitive man, will always find some object of complaint, there is, with this inveteracy of feeling, no point upon which he can so easily suspend it, as that which the world and the profession are continually obtruding upon his attention. Now, all these circumstances acting upon an imagination innately predisposed to become highly wrought, and connected with, perhaps, a natural timidity of character, and an absence of continued and healthful occupation, do not fail to produce many pitiable victims to the spells of a fancy darkened with an unconquerable and ever-present apprehension of sickness and death.

Human nature is a singular concentration of obliquities; and strange as it is, yet there are those who affect disease, not for the appreciable gain of any substantial object, but from a peculiar love of condolence,—a luxury in the excitement of pity. Such are, indeed, beggars for sympathy,—mere paupers upon the good feelings of all with whom they come in contact. Every physician can number one among his patients; and, where such a case is associated with ignorance, or weakness of intellect, it can be readily pardoned. But there is another class, who, with the same artificial show of disease, do not labor under similar natural disadvantages. The hypochondriac is truly an object of pity; but that fictitious disease should become fashionable,—be made a patrician affectation,—is really unaccountable; yet who has not met with such disgusting folly? It is certainly an unenviable refinement; a refinement which, so long as it continues to be seriously listened to by some, as an excuse for indolent langour and insipid fastidiousness, must be only considered by others as a ludicrous caricature of elegant and improved society,—an unequivocal demonstration of ridiculous vanity and senseless egotism.

Upon what circumstances, then, is the disease consequent, and who are the real sufferers? For a proper consideration of these inquiries, the diverse modifications of functional derangements, which have been made to assume the name of dyspepsia, should first be discussed. Divesting it, by these means, of the numerous disorders, as gout, gravel, rheumatism, phthisis, &c., with which it has been complicated, an essential character would be given to it, and its remote and proximate causes be more readily understood. An investigation so extended would not comport with our original plan, or, indeed, be in place; we may, therefore, only incidentally observe that, first, too much consequence has been given to the dissipations of fashionable life, as a powerful cause of this disease; and, secondly, that it very rarely assumes its genuine form, from mere animalism, or the epicurean enjoyment of food. Persons attached to the first, —they whose lives are a constant round of mental indolence,— will doubtlessly find seasons of languor and lassitude; and from indulgence, they may acquire a squeamishness of appetite, and a want of relish for a nutritious diet. From these circumstances, they may be cloyed with a relatively small quantity of food, yet it will be sufficient for their sustenance, their demand being necessarily diminished; for mental and muscular energy is, in these cases, but triflingly expended, and, in return, the system requires but a limited portion of material for its support. But absence of enlarged appetite, ready satiety, or the experience of any sensation of uneasiness, after the deglutition of an incongruous mass of food, scientifically perverted in its preparation, must not be called dyspepsia. Excesses in the concomitants of such a life, must undoubtedly produce temporary derangements, and, if these be long continued, a general enervation will ensue, and chronic functional disorder, or even lesion, may be the result; but we do contend, that the peculiar circumstances connected with such results, will, in a majority of instances, be the cause of effects distinctive from the character of that disease, which we would identify as dyspepsia, and which, in nine cases in ten, eventuates from long continued mental excitement, with irregularity of the natural habits, and the want of active and healthful exercise. We may have been unobservant, but we never knew a person of very imbecile intellect to become a dyspeptic, nor do we recollect a gourmand who was truly a subject of the disorder. There is nothing surprising in this; for the first is incapable of those anxious and continued exercises of the mind, which are destructive of the healthy excitement of the stomach, to which an intellectual and sedentary life is always so obnoxious; and the latter, if he find a period of inconvenience and suffering, as the penalty of his sensual enjoyments, it will be in the form of dropsy, gout, or apoplexy.

Under whatever diversity of circumstances disease may exist, or from what causes soever it may arise, its essentiality of character should not be lost sight of. This has too frequently been done, and the effect, if not immediately consequent, is intimately connected with the origin of many popular systems of medical practice. Erroneous as this may be, there is still another mode of theorizing much more so, which is, the making diseases subservient to a favorite plan of treatment; the order of correct reasoning being thus reversed, their identity is absorbed in the support of ill-conceived opinions. Dr. Avery asks,—"What occasions two thirds of all the inflammatory and febrile diseases, but causes in themselves not serious, operating upon a system highly susceptible of diseased action, from being overcharged with stimulating and nutritious matter?"

This is certainly an original idea, subversive of all that has been said of malaria, marsh miasma, jail effluvia, &c. As an argument, it is incorrect, both in assertion and inference. Certainly it will not be charged upon our hardy backwoodsman, that it is to the profusion with which his table is loaded, that he becomes subjected to the worst forms of fevers; nor will it be believed that the severity of character of our "lake fevers," is the effect of "causes, in themselves not serious," or that the systems of the inhabitants of an interior and sparsedly settled country, are "overcharged with stimulating and nutritious matter." In their laborious occupations, the expenditure of the physical energies would, we think, scarcely permit a surcharge of nutritious matter from their uniform, though substantial diet. We can assure ou rauthor, that climate, soil, atmospherical vicissitudes, and local circumstances, are indeed the most serious causes of diseases; and, as respects our cities, that there are other causes for the prevalence of certain disorders, than those generally referred to by him. They cannot be attributed to the effects of too much eating, co-operating with the peculiarities of climate alone. The original inhabitants of our city were subjected to *such* causes, equally with the present generation. Perhaps no class of people were more accustomed to as substantial and rich a fare, as our Netherland forefathers; and it has been with enviable feelings that we have looked upon the hearty profusion with which, with a characteristic nationality, the tables of their few unmixed descendants have been loaded. Here is a practical illustration of the incorrectness of what Dr. A. asserts in another place, "that our climate is much less favorable to strong stomachs than that of England." We cannot submit our judgment to any opinion of this kind, nor to that which would make our generous mode of living principally productive of the malady in question. There are other causes for its prevalence, to which the ancient population did not expose themselves. It was their dress, always profuse, and of the firmest texture, their quiet, unambitious lives, their constitutional phlegm and inappetency for mental labors, that insured them a freedom from its complicated horrors. Contrast these circumstances with the fashions, habits, and commercial and political anxieties, of the present inhabitants of our cities and larger towns, and sufficient causes for the increase of certain diseases will be found in the arachnean materials, and scanty quantity of the attire of females, their exposure of person, and unsubstantial and insipid refinement of their customary aliment;—in the increase of low dissipation in men, irregular habits, the general anxiety for the rapid acquisition of wealth, the indolent and unaccustomed habits of those who have already secured fortunes, and the continued mental excitement consequent upon the allurements which our free and liberal form of government offers for the enterprising and ambitious. These are the incidents predisposing us so readily to be acted upon by the causes of inflammatory and febrile diseases; causes not only common, but in themselves very serious.

In substituting the effects of too hearty food as an occasion for a large proportion of acute complaints, an erroneous inference follows, that the efficient cause of such diseases is the derangements of which he is speaking, or that the peculiar condition of the sanguiferous system, predisposing to inflammations and fevers, in "*two thirds* of all cases," is owing to the use of a too stimulating diet. This is truly simplifying disease. The treatment is necessarily as simple; it is only to put a patient with pneumonia or phrenitis,—with a remittent or typhus fever, upon the use of oat-meal gruel,—"throw physic to the dogs,"—and return our lancets to the cutler. We know not whether our author belong to any of the modern schools of non-essentialists; if he do not, his enthusiasm for the adoption of a simple diet, has caused him unconsciously to become an advocate for their doctrines,—it has involved him in an absurdity.

The practice of specifying particular articles of diet, as universally promotive of health, or the reverse, argues a neglect of the laws of the animal economy, and is absolutely injurious in its application. Physicians are certainly misled in their mania for systematizing that, which, from the diversity of tastes and appetites, conditions and constitutions of man, is incapable of being reduced to any rule. Into this error our author (as well as every other popular writer on the subject) has fallen; hence he attempts to prove, that milk, "that every one in his early days could eat," is the most healthful for the adult stomach; and that it is a mistaken idea, that animal diet is necessary for perfect health, or strength, or promotive of longevity; or that delicate persons require "*at least a little* animal food."

"Every body knows that some things are more digestible than others, and according to Dr. Paris, 'whatever is indigestible, may act as its exciting cause;' of course, whatever is most digestible, would appear to be the most proper food. Now the great point to be decided is, what is the most digestible food? In other words, what kind of food will be soonest and easiest converted into chyme, and pass out of the stomach? Is it animal food? Arguments need not be brought forward to prove that it is not. No one, I believe, will assert that any kind of meat can be sooner digested than milk, bread, and some other articles. Why then is it so commonly recommended? We are told that it is least apt to ferment. But if acidity does not depend principally upon fermentation, and if animal food is not the most digestible, still why is it recommended? For no other reason, I am convinced, than that it has been long prescribed by those who have attributed acidity solely to fermentation. I am aware, that in attempting to prove that an animal diet is not the best calculated to remove acidity, (I mean, whenever I use this word, the constant presence of too much acid in the stomach, indicated by the symptoms I have enumerated, as frequent ejections of it after meals, &c.,) I am contending with a long established prejudice, but I appeal to facts. The experiments of Tiedemann and Gmelin, satisfactorily prove, that the quantity of acid, even in the healthy stomach, is greater, in proportion to the indigestibility of the food. Thus, in dogs, the acidity was greatest when they were fed on albumen, fibrin, bones, gristle, and the like, while it was less when they were fed on starch, gelatin, potatoes, and rice. But every dyspeptic knows that meat stays longer in his stomach, and longer satisfies his appetite, than a piece of plain bread. The laborer knows the same. From experiments, it appears, that boiled beef requires about twice the length of time for its digestion that bread does. The dyspeptic also knows, that green tea, strong coffee, and wine, produce acidity; in other words, whatever *heats* or *irritates* the stomach, has this effect. Now, if animal food remains longer in the stomach than bread, it must necessarily exhaust its energies more than bread, and that it is more stimulating, we have Dr. Paris's own words,—'a diet of animal food cannot, with safety, be exclusively employed. It is too highly stimulant, the springs of life are urged on too fast, and disease necessarily follows.' Again, he says of milk, 'it is easily assimilated, and therefore affords a quick supply of aliment to the system, while it does not excite that degree of vascular action, which is produced by other animal matters.'

"Here, then, are two articles at least, admitted to be sooner digested and less heating and irritating than meat. Now let the dyspeptic put these articles to the test of experience, notwithstanding he may fancy that tender beef sits better on his stomach than any thing else. Wine, also, for a short time, imparts a pleasant sensation. Let him taste nothing for ten days but the tenderest meat and bread, (for he will not willingly live on meat alone,) and let his drink be water: for the next ten days let him taste nothing but bread and milk. During both experiments, he shall observe strict moderation in eating, and his exercise shall be the same, and he will then be able to form some idea which diet agrees with him best." Pp. 90, 92.

After relating the effects of animal food in his own case, and the subsequent adoption of a milk diet, he also says:

"Much subsequent experience, in the cases of others, has confirmed me in the opinion that meat is injurious." P. 93.

Now, in the first place, we object to this application of the results of experiments made on the digestive organs of dogs, or other animals, for the purpose of proving the powers of the human stomach. It is brutalizing it,—reducing it to the filthy disposition of "returning to its vomit." More practical and satisfactory means of observation and experience, are abundant, without resorting to what we have always considered a doubtful mode of reasoning on this subject.

The objection that we make to the doctrines just quoted, is, their proscription of animal diet, and the neglect of certain principles connected with the digestibility of our food. It is not the quality of the article eaten, that is to govern us invariably in its choice; good digestion depends almost as much upon the gratification afforded by our food,—the healthful feeling of satisfaction, which pervades the whole system after eating, as upon the quantity of nutriment which such articles contain. Habit renders many articles digestible, which, by *à priori* reasoning, would be considered directly the reverse. The history of nations affords ample proof of the correctness of these propositions, for various as are the edible products of the world, they are no more so than the tastes which have converted them into means of sustenance. This is the case in every variety of life, from the most simple to the most refined; and it has thus happened, as we have said, not in proportion to the share of nutrition which the different articles contain, but to the powers of the constitution, in assimilating the ingesta, which taste and habit have made common and favorite. We see abundant evidences of this fact in civilized life, and no man in his social intercourse, can have been unobservant of the various articles of food that are chosen by one as agreeable and healthful, and rejected by another as noxious and indigestible. In this, how are they governed? Is it mere fastidiousness? Certainly not. Is it not by observation of the healthy enjoyment which arises from circumstances, induced by the agreement of the stomach with certain things, rather than with others? And does not this agreement arise, in a great measure, from the repetition with which these active and passive bodies are brought, as it were, into co-operation for the effecting certain necessary results? Assuredly it does; and it is thus that the stomach acquires a functional intuition, capable of best selecting that which is most suitable for its *individual* power. The question of digestibility or indigestibility, then, does not depend upon the quality of the food, whether it be animal or vegetable, solid or fluid. It is idle, therefore, to call that article universally healthful, which habit has made so in single instances. It is a narrow conception of mind; and he evidences but a superficial knowledge of the laws of our material system, who prescribes personal experience and feelings, as a standard of practice on this subject. This, however, is not unfrequently the case, and hence arise the contradictory opinions of physicians, and the discordance among writers particularly. There are, doubtlessly, restrictions to be observed in the articles of diet, and there are some which may be commended in preference to others; but this refinement of abstract rules and chemical analyses,—this eating by the ounce avoirdupois,—this substituting scales and measures, and chemical tests, for the natural criterions of taste, appetite and habit, is productive of more evil than good; it is ruinous of that serenity of mind, which imparts delight to the rational enjoyment of our food, and destroys that equilibrium of action, upon which its easy digestion so much depends.

Prejudice does not lead us into commendations of animal food, but we believe it to be a necessary stimulus, abstinence from which would be productive of much harm. Man is not an herbivorous nor a graminivorous animal; his dental formation characterizes him differently. This is an indication, not merely for his convenience, but for his actual government, and should never be placed out of sight; it is essential to his well-being, that every such fact should remain unperverted by speculation. Dependent upon this, it must rationally be concluded, that a meat diet (combined with that from the vegetable kingdom) is absolutely required for the sustenance of his active energies, for the complete elaboration of that degree of perfectibility which his physical and intellectual formation is capable of attaining. Observation has shown that animal, as it is more stimulant, and slowly digested, than vegetable food, is better capable of satisfying hunger; hence, a less quantity is necessary for the wants of the stomach, and, consequently, there is less danger of the occurrence of the evils of its over-distension. Our author himself says, that it "longer satisfies the appetite, than a piece of plain bread." From this fact, however, it does not necessarily follow, as he asserts, that exhaustion of its energies is to be apprehended; for as every viscus requires a certain degree of stimulation, nature has provided each with a disposition for the employment of its functions appropriate to that purpose. If, therefore, (as is the truth,) meat is required for the support of animal vigor, its stimulus must be healthful, unless, as in every other case, it be carried to excess. A surfeit of the author's favorite diet of bread, milk and eggs, would equally cause the exhaustion he so much fears. Excess, not the substance itself, produces the evil. As to the question of the production, or removal of acidity, if "whatever is indigestible, may act as its exciting cause," that argument has already been disposed of, as we have shown that digestibility, or the contrary, is a relative question, not depending upon the quality or nature of the article eaten.

The few extracts that we have made, and the remarks elicited therefrom, have been confined to principles affecting the subject of diet and regimen,—the prevention, as well as relief of disease. We would not have our observations construed amiss, nor be understood to deny the advantage or occasional necessity of restrictions in sickness; but even here we would not go to the extreme which is practised by some. Our opinions as to the dietetic treatment of chronic affections may be gathered from what has been previously said. In acute diseases, the appetite will regulate itself, for it generally craves but little, or absolutely nothing; and during convalescence, it has been our practice to consult the customary taste and mode of living, rather than any system of diet, and although we must confess, that we have sometimes been almost startled from our rule, by the request for some things which we were taught to consider pernicious, yet we have rarely, very rarely, seen any injury arise from a compliance with the patient's wishes, only enforcing moderation, and a simple mode of preparation.

Before bringing this subject to a close, we would notice a popular argument, quoted in the work before us, and which we have heard not unfrequently made use of, in which the character of nations is contrasted, and the advantage awarded in favor of the millions in Asia, Italy, and the South of Europe, who live on rice, corn, lettuce and oil, and of the Lazzaroni of Naples, who chiefly rely on corn, bread, and potatoes. There is more sophistry than real argument in this. Now where, we would ask, can there be found more debased, perfidious and imbecile specimens of human nature, than among these very millions of beings? Are they not the very refuse of humanity, demoralized, degraded, shunned, and proverbial for the lowest degree of intellectual vigor? If it were necessary at present farther to prove the reverse of the doctrines in whose favor this quotation has been adduced, this is the very argument we should use for our purpose. We would ask our readers to compare the inhabitant of Italy of the present day, fed on oil and lettuce, with his refined and courageous ancestor. His country, in its earlier ages, was the granary of its subjected provinces, and its flocks, and herds, and fisheries, insured to the tables of the Roman all the conveniences and luxuries of life; his arms were victorious; the Senate-house re-echoed with the thunders of the most chaste and glowing oratory; philosophy was liberally encouraged, commerce flourished, and the products of Scythia, India and Arabia were administered to the gratification of the magnificence and delicacy of the mistress of the world. "What now is Rome!" Let it not be urged against us, that luxury was the cause of her fall; it was the indolence and licentiousness of her after age, that swept her name from among nations. As in individuals, moderation in the enjoyments of the varied fruitfulness of the world, secured for her an intellectual and physical vigor,—excess was her ruin. If we turn to the Asiatic, we find nothing but impotency and baseness; he has lost the character for wealth and the arts, which made his subjection an object of the ambition of Tamerlane; and all that once made him a fearful enemy, is lost in a lethargic submission to the most abject slavery. The Spaniard and Portuguese find but a miserable return for their abstinence, in a loss of all that ennobled their former character,—all that made the age of Ferdinand and Isabella, and of John, the model of chivalrous enterprise,—of dignity and learning. Their glory has fled, and, exhausted by poverty and superstition, they have become a by-word among nations. And what if the forms of the Lazzaroni of Naples be "active and finely proportioned;"—ignorant, lazy and dissolute, are they not the "ulcers upon the fair face of nature?" Are not the moral honesty, and general virtues, and hardihood, of what have been termed the "timid" inhabitants of the higher latitudes, in every point of view preferable? The food of these is almost entirely animal; too exclusively so, it may be said, even for the severities they have to encounter; and yet, with far less advantages than those with whom they have been contrasted, we find, according to the accounts of Egede, and Saabye, and other Moravian missionaries, and of Hooker, that they are highly capable of mental cultivation, fearless in hardships, and far better fitted, from their physical vigor, for the endurance of continued exertion, and the dangerous enterprises enforced upon them. It would be an interesting investigation, to pursue this subject to its full extent;—the result we can anticipate; and let us not be called visionaries, if we say that, with some few exceptions, all moral vigor, philosophical research, and the prevalence of science, would be found to be connected with indulgence in the use of solid and stimulating food, and the discriminating enjoyment of whatever may gratify the taste or appetite. The countries of Addison, Johnson and Sheridan; of Booerhave and De Witt; of Luther and Goëthe, are proverbial for their substantial fare, and the liberal pleasures of the table; and in modern history, nearly all that is rich in the improvements and dissemination of religion, philosophy, arts and sciences, has emanated from Great Britain, Germany and Holland. France, more fastidious in her enjoyments, has indeed had her Bonaparte, La Place and Cuvier, but the general character of her population is incomparably inferior to that of the former countries, in the respects of which we have spoken. "In no country is the table loaded with such profusion as in ours," says Dr. Avery;—and in what country has the progress of civil and religious liberty proceeded so far; or the moral and physical capacities of man been more fully developed; or his spirit of enterprise, ambition and valor, more forcibly exhibited? It is in these countries that the beauty and sublimity of mind predominate; it is here that man is ennobled with the full dignity of his nature, and can glory in his freedom from those civil and moral shackles, which are supinely borne by less favored nations.

This may be called a fanciful speculation, but we have a confidence in the truth of what we have adduced, and are, at least, assured that it must be convictive of the sophistry of the argument which our author has so vauntingly adopted. The dietetic system-maker, and he, who in his enthusiasm would enforce abstinence on mankind, even to the adoption of the scanty and ungenerous repast of a troglodyte, may also find an argument in these facts, that any other rule of diet than simplicity in preparation, and moderation in eating, is contradictory to the absolute demands of our nature, and that in a deprivation of the invigorating stimulus of animal food, and the liberal indulgence of our taste, the calls of a well regulated appetite, and the occasional and restricted festivities of the table,—man becomes enervated, his generous spirit is debased, his ambition subdued, his resistance to oppression enfeebled or totally lost, his whole intellectual and physical energy is impaired, and even his morals become depraved. We should be taught, from these considerations, that the danger is no less in refusing the blessings of abundance that have been offered us, than in using them so as to abuse their intention. A happy medium will insure the accompaniment of those characteristics, which are so forcibly portrayed by Hufeland, as belonging to the man destined for longevity.—"His stomach is excellent—his appetite good, and digestion easy. The joys of the table, in moderation, are to him of importance; they increase the vigor of his system, and tune his mind to serenity, while his soul partakes in the pleasure which they communicate. He does not, however, eat merely for the sake of eating; but each meal is an hour of daily festivity—a kind of delight, attended with this advantage, among others, that it rather increases than diminishes his riches. He eats slowly, and has not too much thirst. An insatiable thirst is always a sign of rapid self-consumption. In general, he is serene, loquacious, active, susceptible of joy, love, and hope—but insensible to the impressions of hatred, anger, and avarice. His passions never become too violent. He is fond of employment, particularly calm meditation and agreeable speculation—is an optimist, a friend to nature and domestic felicity—has no unbounded thirst after the honors or riches of the world—and banishes all unnecessary thoughts of to-morrow."

Original capacities we would by no means overlook, but we do say, that as the forcible evidences of mind, and its progressive improvement, are dependant upon physical energy, any circumstances calculated to enfeeble the latter, by a deprivation of the peculiar nutriment and stimulus already mentioned, must, in proportion to that deprivation, inevitably prevent the perfectness of intellectual development. Solid acquirements, profoundness in any science, or even strong sense, we sincerely believe, are rarely found, in connexion with the practical observance of the reverse of our doctrine. Is this fanciful speculation? It certainly has all the affinities of cause and consequence.

We must now conclude our remarks on the work before us, and only regret, that we cannot bestow that praise upon it which our personal feelings toward the author would incline us to do. With the exception of some remarks on what he considers our peculiarities of climate and mode of living, the book is a compilation, chiefly adopted from Philip, Paris and Johnson, written in a garrulous, popular style, and intended, as we have said already, for general readers. Dr. Avery has anticipated our objections to this character of his work, and asks,—"Shall we forego the countless benefits of a general diffusion of knowledge, for fear that some few individuals will be rendered less happy by it?" We scarcely need repeat, that it is not a *few* who are made miserable by the diffusion of knowledge of this kind; it is the many, it is the majority of all who peruse even his work. We have no fondness for mysteries in medicine, but we emphatically say, that the diffusion of medical knowledge among general readers is a positive evil; it is a knowledge, the possession of which is wo. Like the patient of Doctor Gruel—ominous name—in the Spectator, the hypochondriac is made so, because he has names for all his complaints, reasons for all his pains, and prescriptions for every fancy; he ruins a good constitution, by endeavoring to mend it; and, finally, takes the grand restorative commended in some popular work, or by some popular physician, which indeed cures him of all earthly uneasiness.

Our social intercourse with Dr. A. has given us a respect for his talents and industry, and we trust that he will view our remarks only as the performance of a duty, that we owe to our readers, and to our profession. When our author next appears before the public, we shall congratulate him, if it be the medical public only. G.

Art. VI. *Transactions of the* American Philosophical Society, *held at Philadelphia, for promoting useful knowledge. Vol. III.—Part II.—New Series.* Published by the Society. Philadelphia: James Kay, jr. & Co., 1830. 4to. Plates.

Although the study of the natural sciences has scarcely received that attention in our country, which its importance so truly deserves, still there have ever been a few persevering individuals and select associations, who have prosecuted these interesting labors with the most untiring ardor; and, notwithstanding the absence of liberal or even just encouragement, have gone on steadily in enlightening the scientific world, by the promulgation of their inquiries, through occasional publications. When we look, however, at all the circumstances under which these periodicals have appeared in the United States, we must confess, that we are not so much astonished that many of the most deserving of them are now inquired for in vain, as that, in spite of what would seem the most disheartening prospect of success, a few associations of our *savans* should ever engage in an enterprise, from which the community could never expect to derive a single hint for pecuniary speculation, or easily acquired notoriety. But so it is; and from these discouragements, the pleasure is therefore the greater, in being enabled to introduce to our readers the publication that forms the title of this article. Before proceeding, however, with our analytical remarks, we cannot refrain from expressing our regret, that the sanguine expectations with which our valued friends of the Lyceum of Natural History, commenced and for some time continued the publication of their "Annals," should at length be disappointed, and that those who feel an interest in the subjects to which it was devoted, should be deprived of the gratification of perusing the results of their scientific efforts. We are aware of the want of that generous countenance from the public, by which their honorable exertions could alone be sustained; but, from some indications, we will not despair of an early resuscitation of their former undertaking, to which we think their pride, talents and zeal in the pursuit of knowledge, will be stimulated by this recent publication of the American Philosophical Society.

It will not be expected from us, that we should separately notice the articles composing the work before us; the most of them are unconnected both with our own studies, and the objects to which our Journal is specially appropriated;

> "Quod medicorum est,
> Promittant medici."

From the following table of contents, therefore, we shall select only two or three articles for particular attention, as pertaining to some of the departments of medicine.

No. X.—Observations on the Birds of the Genus Tetrao. By C. L. Bonaparte.

No. XI.—Observations on Lamarck's Family of Naiades. By P. H. Nicklin.

No. XII.—Experiments on the Poison of the Rattlesnake. By R. Harlan, M. D.

No. XIII.—New Genus of the Family of Naiades; also, eleven new species of the Genus Unio. By Isaac Lea.

No. XIV.—On the use of the Maxillæ in Coleopterous Insects, &c. By N. M. Hentz.

No. XV.—Description of a new species of the Genus Astacus. By R. Harlan, M. D.

No. XVI.—Notice of an anatomical peculiarity in the Condor of the Andes. By R. Harlan, M. D.

No. XVII.—On the Constructions of Eclipses of the Sun. By John Gummere.

No. XVIII.—Description of a Fragment of a new Fossil Animal. By J. Hays, M. D.

No. XIX.—Description of a new genus and species of Extinct Mammiferous Quadruped. By John D. Godman, M. D.

We shall first notice Dr. Harlan's paper on the peculiarity observed in the structure of the stomach of the condor.

The digestive system in animals, forms one of the most curious and important branches of comparative anatomy. In the sixteenth article, Dr. Harlan has described a modification of the structure of the stomach, different, we believe, from any of the variations of this organ heretofore known.

"The stomach, which was nearly empty, is oblong in form; the cardiac portion being marked with longitudinal folds; the middle portion displays two oval protuberances, composed of gastric glands, which is again succeeded by a membranous or sacular portion, on the interior surface of which are nearly contiguous, *longitudinal bands or ridges, of a cartilaginous structure, serrated or spiny on the surface towards the stomach*, covering the pyloric or lowermost two thirds of the stomach. This cartilaginous production, like the inner lining of the gizzard of the fowl, is easily detached. It must have considerable effect in facilitating the process of digestion, by tearing and separating the fibres of the meat with which these birds habitually gorge themselves, so as to be disabled for a time for flight."

We have, in the southern parts of the Union, two birds, the turkey buzzard and the carrion crow, whose external form and habits are extremely similar to those of the condor, so much so as to be included by naturalists in the same genus. There is, therefore, great reason to suspect, that their internal organization does not materially differ; and we recommend it to the attention of our Southern friends, to investigate this curious subject, and to determine whether the same peculiarity, or any thing resembling it, is found in these common birds of our own country. We should be happy to insert in our Journal any communication upon this or similar points.

In the fourteenth article, Mr. Hentz denies the masticating influence of the maxillæ in most coleopterous insects. His observations may possess some interest to those attached to the study of comparative anatomy. He states, that he has been successful in discovering a number of insects, in which another use is made of those parts of the mouth, than that which has been attributed to them, from their form and position.

"After mature consideration, I have even come to the conclusion that the maxillæ, in many cases, must be considered only as appendages to the tongue, and that their use, then, is similar to that of this last organ; that is, to assist in the deglutition of food, while they seldom serve to grind or lacerate, excepting in the *Melolonthidæ*, *Rutelidæ*, and a few more, where there seems to be a departure from their primary use. De Geer, quoted by Kirby and Spence, long ago observed in *Leptura quadrifasciata*, that the maxillæ were terminated by soft appendages, fringed with hair. There the chief use of the maxillæ could not be mistaken; they are evidently employed to penetrate into the corolla of flowers, somewhat in the same manner as the antlia of lepidopterous insects. We are already acquainted with the genus *Nemognatha*, established by Illiger, where the maxillæ can hardly have any power in masticating or lacerating the food."

Dr. Harlan published, in the first part of this, the third volume of the Transactions, which appeared in 1828, some observations on the poison of the rattlesnake, and a series of experiments to test the power of a new vegetable remedy, the secret of whose application was purchased by a number of medical and non-professional gentlemen in Philadelphia. In giving the result of his investigations, Dr. H. first notices a few of the most celebrated specifics, among which the most ancient is the *volatile alkali*, which was prescribed by European practitioners more than a century ago. We have been informed that the same remedy possessed the unlimited confidence of the laborers on some of our northern canals, who, from the nature of their occupations, were much exposed to be bitten by these venomous reptiles. Every overseer carried with him a bottle of ammonia, which, when required, was immediately applied both internally and externally. If it possess any of the qualities of an antidote, the author is inclined to believe, that this is only held in common with other diffusible stimulants, and acts by counteracting the adynamic character of the symptoms. This is most probably the effect of its internal use; its external application can only be indicated as a potential cautery, or escharotic.

The *prenanthis serpentaria* of Pursh is next noticed. This plant is held in repute in Virginia, and is there known by the common name of *lionsfoot.* Pursh states, that he had an opportunity of being a witness to the efficacy of this plant. A man was bitten in the foot by a mockason snake, which by the people generally, is considered the most dangerous. "An inflammation and swelling of the whole leg took place immediately; but, by taking the milky juice of this plant, boiled in milk, inwardly, and applying to the wound the steeped leaves, which were frequently changed, he was cured in a few days." This plant is often confounded with what is called by the inhabitants the *false lionsfoot*, or with the *p. autumnalis*, or *rubicunda.*

The state of South Carolina purchased the knowledge of the use of the *alisma plantago*, or water plaintain, from a negro, for his freedom, and a life annuity of a hundred pounds. Whitlow says, that the common plaintain has been used by mistake, from which error he considers all the failures to have arisen.

In Florida, on the authority of Major N. A. Ware, it is stated, that a species of *pedicularis*, or lousewort, is held in considerable esteem, as an antidote. Sweet oil has also been used as a specific.

Passing over other reputed remedies, Dr. Harlan comes to the immediate consideration of the one in question. This is the *hieraceum venosum*, or hawk-weed, adder's tongue, poor Robin's plaintain, rattlesnake-weed, &c.—a common weed in dry open woodlands. The first experiment we give entire, not so much for the purpose of showing the effects of the remedy, as the action of the poison. The case, in this point of view, is interesting.

"A large female snake was taken from the box, and placed upon a table, in a warm room. At 11h. 20m. A. M. the man received a bite from the irritated snake, on the index finger of the left hand, about half an inch from the metacarpal bone; the wound resembled a minute incision, or briar scratch, about one fifth of an inch in length; one fang only appears to have been projected, the animal striking with one or both fangs at pleasure; a little blood exuded. Pulse, just before the bite was received, 104 per minute; but it was observed to vary during the experiments, to such a degree as to prevent any correct inference to be expected from that source.

"11h. 40m. He says the wound smarts a little, but no signs of a poisonous wound are yet exhibited.

"After the lapse of nearly an hour from the commencement of the experiment, no symptom denoting the action of the poison occurring, Elnsworth exposed the same hand to a large active male snake. As in the first instance, considerable irritation of the animal was requisite to force him to strike, and at

"12h. 15m. He received a second wound from a single fang on the back of his hand, directly over a prominent venous branch. A large drop of transparent, yellowish, and glairy fluid, was spread over and around the wound, which was doubtless ejected from the poison sack. A little very dark blood exuded from the wound.

"12h. 31m. Slight swelling is observable immediately around the second bite.

"12h. 48m. Elnsworth again exposed his hand to the female snake, and received two additional punctures simultaneously, one from each fang, on the lower extremity of the metacarpal bone of the ring-finger. As in the first instance, neither of these wounds displayed symptoms of the specific effects of the poison; the *second bite*, therefore, or that received from the male snake, will alone be the subject of further observations in this experiment.

"1 o'clock, P. M. The swelling around the second bite has increased considerably, the tumefaction extending up and down along the course of the vein, about an inch and a half in length, and half that size in breadth; the greatest length of the tumefaction being below the wound. The man now complained of pain and numbness along the course of the lymphatic vessels on the inner part of the fore-arm.

"1h. 25m. Pulse natural, symptoms last described somewhat increased; swelling unattended with symptoms of inflammation.

"1h. 30m. Although the man is perfectly willing to permit the symptoms to proceed further, several of the witnesses expressed their unwillingness to bear the responsibility of the consequences; he was, therefore, permitted to have recourse to his remedy, and immediately swallowed a few ounces of the decoction of the root, and appeared indifferent about the external application of the same to the wound. He stated, that the original stock of the vegetable being exhausted, and the season too far advanced to enable him to obtain more at present, he would be under the necessity of applying portions of the flesh of one of the reptiles (just decapitated, for the purpose of another experiment,) to the wound.

"2h. 30m. He has held the bloody portion of the snake to his wound incessantly, from which all the swelling has subsided, together with all uneasy sensations, from his hand and arm.

"4 o'clock, P. M. The man Elnsworth has remained constantly in the room under my inspection. His dinner was offered to him, but he had little disposition for food; says his stomach is a little sick, probably the effects of the medicine. No tumefaction or other symptoms remain; the wounds resemble slight scratches, without any appearance of inflammation. The vein, in which the bite took effect, presents a peculiar appearance, being, for the distance of an inch between the valves above and below the wound, *quite empty.* Directly above the valve, the vein is unusually prominent, and the pressure from the application of the flesh has been removed for more than an hour."

In the second experiment, a young pup was bitten by the same female snake; after five and a half hours, the animal died. Dissection showed extensive extravasation of uncoagulated blood, in the cellular tissue, over the whole front of the belly, where the animal was bitten. The appearance of the parts, in the vicinity of the wound, was comparable to the effects of a violent contusion. The abdominal reflections of the peritoneum were nearly in the same condition; as were also the peritoneal coats of the stomach and intestines, the veins of which were congested; the poison had not affected the internal coats of these viscera. The blood throughout the system was fluid, the bladder empty, and the healthy appearance of the thorax unimpaired. An extensive dark patch of extravasation was observed under the arachnoid membrane, lying over the lobes of the cerebrum. The substance of the brain, and spinal marrow, natural. These last, it will be noticed, are the usual phenomena after death by poisons.

A full grown cock was slightly bitten on the breast, and recovered without any appearance of constitutional affection. The wound presented a black or gangrenous appearance.

A pup received three bites, one of which was severe, and over the left eye. The wound swelled, and the animal had vertigo. It recovered on the following day, without interference.

Another pup was inoculated with the poison expressed from the bag of a living snake. The wound swelled, and after some hours, hung down like a large hernia. Constitutional effects began to be manifested in fifteen minutes after the bite. On the succeeding day, the animal recovered, without the administration of any remedy.

In the last place, poison taken from a living snake was placed on a piece of meat, and given to a pup. No local or constitutional effect followed.

These experiments, we have already observed, were detailed in a previous number of the Transactions; in the number before us, we have three others, in which the antidotal powers of the *Hieraceum venosum* were tested. The author remarks, that although in a few instances the medicine did mitigate the effects of the poison, yet in no instance was it found successful as an antidote, when administered to quadrupeds.

Two kittens were bitten by a young male rattlesnake, recently received from the country. No symptoms of poison followed. A large female snake was next used, whose bite was speedily followed by the usual symptoms. A decoction of the above root was freely given the first bitten animal, "with the apparent effect of rendering the poison less narcotic, and probably of retarding the death of the subject of the experiment, and it survived the animal subsequently bitten more than an hour."

A pup and dog were bitten by an active male snake. In about twenty minutes, the effects of the poison were manifested. The decoction was given to the pup, which was found dead the next morning, whilst the dog completely recovered.

A pup received a wound over the inner canthus of the eye. In five minutes the effects were visible. The remedy was used, which seemed somewhat to mitigate the symptoms, but the next morning the animal was found dead.

From the foregoing developement of facts, it will be perceived, that as little confidence can be placed in the *Hieraceum venosum* as in all the other remedial specifics which have from time to time been confidently obtruded upon the public. The truth is, there is no such a thing as a specific remedy, and the physician who puts his faith in any agent of the kind, will often find himself involved in difficulties of his own production. That either or all of the medicines named in this paper may not be useful, we will not deny; but to resort to them blindly, without any reference to the peculiar action of the poison, or the pathology of the disease,—is, at least, an irrational mode of practice, partaking more of the character of charlatanry, than an application of the just principles of medical science. With Dr. Harlan, we would, if called to treat a wound inflicted by a poisonous reptile, rather rely upon the less equivocal means of suction, pressure, or ligature, and, we may add, the internal use of diffusible stimulants.

The last paper in the *part* before us, is from the pen of the late Dr. Godman, and we cannot look upon it as the last memorial of its author, but with mingled feelings of pleasure and regret. With pleasure, as exhibiting another evidence, among the many which history affords, of the acknowledged power of real talent, when combined with an enthusiastic love of knowledge;—of regret, that this respected individual should have found his path through life a constant struggle with adversity and disease; a struggle, which, although it brought him to an early grave, still never was sufficiently powerful to overcome his zeal, or to dampen his pursuit of that reputation, which it was his ambition to obtain in defiance of every difficulty. In Dr. Godman, the youthful votary of science will have an instructive example of the reward of labor and perseverance. Raised by his own exertions from an ordinary situation in life, without friends or education, he succeeded in procuring the first by his character and talents, and acquired the latter by industry and untiring ardor; and, finally, from a printer's boy, elevated himself to the professional chair of Anatomy and Physiology, and spreading the result of his laborious investigations in many departments of science, before learned societies, and through various publications, he has left behind a name, which will long be remembered with respect.

In this paper, Dr. Godman detected a curious fact in the history of the dentition of the great fossil mastedon of this country. The young of this species is furnished with two incisors, or tusks, in the lower jaw, which soon drop out, and the sockets themselves fill up and disappear. Dr. Godman was not aware of this fact himself, but supposed that he had discovered a new genus. He accordingly proposed for it a new generic and specific appellation, which, of course, must be suppressed. We must, therefore, be still restricted to the knowledge of only four gigantic antediluvian quadrupeds in this continent: the *Megalonix*, first described by Mr. Jefferson, the *Mastedon*, the *Megatherium*, and the *Elephant*.

To those who are desirous of investigating the subject, we refer to a paper read by Mr. William Cooper before the Lyceum of Natural History, in which the question is examined in great detail, and analogical instances in other quadrupeds are mentioned. G.

MEDICAL INTELLIGENCE.

ANATOMY AND PHYSIOLOGY.

1. On *the cause of the Entrance of Air into the Veins during Operations on the Neck.* (*Archives Générales de Médecine, Juin,* 1830.)—It is well known, that on several occasions, death has taken place suddenly during surgical operations on the neck, and that the accident has been traced to the admission of air into the heart and great vessels, by the mouths of divided veins. But no satisfactory explanation has yet been given of the fact that such an accident occurs rarely, or of the circumstance that air should ever obtain entrance at all. For, although most physiologists now admit, to a certain extent, the principles laid down by Dr. Barry, as to the venous circulation and the suction-power which is excited during inspiration on the blood in the veins that enter the chest,—still, as M. Berard, the author of the paper quoted above, has remarked, it is not easy to see how this suction-power should have the effect of drawing air into the cavity of a flaccid vein, the parietes of which must yield to atmospheric pressure before any fluid, even aeriform, can enter by an opening in it. M. Berard, however, has succeeded in explaining the cause of the entrance of the air; and has likewise discovered in this cause an organization of considerable consequence for maintaining the functions of the great veins near the heart.

He observes, that the veins are all formed of extremely flaccid coats; so as to collapse entirely when empty, provided the atmospheric pressure act on their external surface,—and that they would consequently be all reduced to a similar state by the suction-power of the heart and chest, unless their calibres were kept open by some peculiarity of mechanism. This peculiarity consists in the adhesion of the parietes of certain veins to adjacent parts, which tend to keep them stretched. Such a structure has been long known to exist in the case of the sinuses of the brain, and ramifications of the venæ hepaticæ; the former of which are kept constantly distended by the organization of the falx and tentorium of the dura mater, and the latter by the incompressible nature of the organ through which they are distributed. But M. Berard now calls the attention of physiologists to certain peculiarities in the organization of other veins, for accomplishing the same purpose. The entrance of the superior vena cava into the right auricle of the heart is kept in a state of constant tension by the prolongation over it of the strong fibrous covering of the pericardium; and the subclavian veins, the junction of the jugulars with these veins, as also the whole course of the axillary veins from the scaleni muscles to the arm-pit, are maintained in a similar state, by being attached to various aponeurotic membranes at the root of the neck. Hence, if the superior cava, subclavian, axillary, or commencement of the jugular veins, be divided, they do not collapse as other veins do, but remain gaping, unless they are detached from the texture by which they are kept distended, and then they collapse like veins generally. Were it not for this organization, it is obvious that the suction-power of inspiration, even of the powerful kind which is admitted by some physiologists, could have little or no effect in moving the blood towards the heart along the superior cava. But the chief veins being kept in a state of distension, and so enabled to resist the compressing tendency of atmospheric pressure, the pumping or inspiring power of inspiration becomes effective; and it is particularly worthy of remark, that as the aponeurotic membranes to which the veins are attached extend from bones to bones, and are most stretched during the expansion of the chest,—it is during the act of inspiration that the veins are most extended. The same organization will also, for the same reason, account for the entrance of air into the heart, from wounds of the veins at the root of the neck during surgical operations. If the subclavian, or commencement of the jugular vein, is opened, air will enter to a certainty, unless immediate precautions be taken to exclude it; and as for the same accident occurring when more distant veins are opened, it will be found, we doubt not, to arise from the divided vein having acquired, from connexion with diseased parts, an organization similar to that possessed by the subclavian and axillary veins in their natural state. M. Berard farther observes, that the inferior cava, by its passage through the diaphragm, is similarly organized with the superior cava. It remains constantly extended and gaping, even when empty. Hence the suction effect of inspiration is transmitted to the hepatic veins, which, we have already seen, are fitted for conveying it by a corresponding structure. It is thus apparent, that the inspiratory power of the chest is one of the powers which contribute to the movement of the blood in the vascular system of the liver. The want of a corresponding structure of the great veins leading to the extremities, renders this moving power of no influence whatever on the circulation in the other branches of the inferior cava.—*Ed. Med. and Surg. Journal, for Oct.*, 1830.

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2. *On the Animal Temperature in different Latitudes.* (*Anales de Sciences Naturelles, Mai*, 1830.)—A few years ago, Dr. John Davy

made some interesting experiments on the differences which take place in the temperature of the human body in passing to warmer or colder latitudes; (Edin. New Philos. Journal.) and the result was, that in warm climates it rises, and in cold climates falls a little. These experiments have been more lately repeated by M. Reynaud, of Paris, during a voyage to the East. The voyage was from Toulon by the Cape to the Isle of Bourbon, the Maldivians, the Coromandel coast, Bengal, the coast of Pegu, Ceylon, the Straits of Junda, Java, and then home by the Cape to Havre; and it lasted from May, 1827, to December, 1828. The thermometers used were carefully compared by M. Arago with the standard at the Observatory of Paris, both before and after the voyage,—so that the accuracy of the observations is unquestionable. There are seven sets of experiments, four of which were made in the torrid, and three in the temperate zones, and each set was made on the same twelve men, all of them being in good health, most of them athletic, and all fed and exercised almost precisely in the same manner. On the 1st July, in 10° 4′ north latitude, the air being 79° F. the average temperature of twelve Europeans was 99⅓°. On the 10th of August following, in 36° 10′ south latitude, the air being 62¼, the average temperature of the body was 98¾. On the 11th September, under the line, with an atmospheric heat of 86°, the temperature of the body was on an average very nearly 100°. Next year on the 13th May, in latitude 7° 1′ south, the air being 86°, the body was 98½. On the 14th of October following, in 32° 23′ south latitude, the air being 62⅓, the body was 99°. On the 30th of October, under the line, with an atmospheric temperature of 79°, that of the body was 99⅓. On the 4th December, in 46° north latitude, the air being 53⅓, the body was 99°. Hence it will be perceived, that the range of the animal heat, between climates where 53⅓ and 86 are the extreme temperatures of the atmosphere, is one degree and a quarter of Fahrenheit, and that it rises as the atmospheric heat rises, and *vice versa*,—with some slight irregularities, probably to be ascribed to the coldness or heat of the climate, which the subjects of experiment has just left.—*Ibid.*

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3. *On the influence of atmospheric temperature on the Mortality among Infants.* (*Annales d'Hygiène Publique et de Médécine Légale, Janvier et Avril,* 1830.)—MM. Villermé and Mylne Edwards have proved, by a set of statistical tables, that the mortality among young infants is considerably greater in the colder northern departments of France, than in the warm southern departments, and that in the same place it is considerably greater during the cold months of the year than during the temperate months, and also somewhat greater in the hottest months than in those which are temperate. Thus in the northern part of France, situated above the latitude of 49°, the mortality among children within the first three months of life, was in 1818, as 1 to 7.96 births,—south of the 45th degree of latitude it was only as 1 to 10.72; and in 1819 it was in the former district

as 1 to 9.12, and in the latter as 1 to 11.7. At Dunkirk the mean temperature of the year is 11½ degrees less than at Toulon, the former being 50.4 F., the latter 62°. Thus again in the year 1818, the mortality for the same period of life throughout the whole of France, varied from one death in 7.22 births, during the month of January, to one in 9.8 in the month of May; and in 1819, from one in 7.66 during January, to one in 9.97 during the month of May. During the three cold months of December, January, and February, the average for the two years, was one in 7.81; during March and April, it was one in 8.78; during May, June, and July, one in 9.75; during August and September, one in 8.06; during October and November, one in 8.68. In order to perceive fully the effects of temperature in producing these variations, the English reader must keep in remembrance, that August and September are in France extremely hot months, while October, and even November, are much more mild than in Britain. The inference to be drawn from the numerical statements here given, as to the mortality in different seasons, is, that in the coldest months it is greatest, in the warm months at the beginning of summer least, but somewhat greater even in the warm months, when the extreme heat of summer has endured for a considerable time.

These facts have been since very satisfactorily confirmed by the statistical inquiries of M. Caffort, at Narbonne, in the middle of France. In the course of fifteen years subsequent to 1810, the deaths in that town among children, within the first three months, was one in 9.57 births; which is intermediate between the mortality in the northern and southern departments of France, as given above. Of 532 deaths among children of the same age, 163 occurred in the months of December, January, and February,—113 in April, March, and May,—125 in September, October, and November,—and 131 in June, July, and August. On taking the proportion of deaths to births, the average, for the winter quarter, is one in 8.43 births; for the spring quarter, one in 12.05; for the autumn quarter, one in 10.65; and for the summer quarter, one in 8.95.—*Ibid.*

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4. *Nature of the Urine, during the formation of the Cystic Oxide Calculus.* (*Journal of Science, Literature, and Arts, January to March,* 1830.)—Dr. Venables of Chelmsford, has lately had a good opportunity of carefully examining the urine, in a case of that rare form of calculus in the bladder,—the cystic oxide. The only instance where the urine had been previously examined in the same circumstance, was in the case of a gentleman mentioned by Dr. Prout, in his work on the Diseases of the Urinary Organs, (p. 166,) who found that the urine varied in density from 1020 to 1022, was rather abundant, faintly acid, of a yellowish-green color, and peculiar odor,—that there was formed, on standing, a greasy-like film on the surface, and a copious pale precipitate, both of which were composed of triple phosphate of ammonia, and magnesia, and cystic oxide,—that cystic oxide was also precipitated on the addition of

acetic acid,—and that there was very little urea, and scarcely any lithic acid. This analysis corresponds precisely with that of the urine in Dr. Venables' case.

The subject was a laborer's wife, forty-seven years of age, stout, corpulent, sallow, but otherwise healthy looking. She had several children. She was much annoyed with constant obtuse pains in the loins, like lumbago, and occasional attacks of acute pain, like nephritis, which rendered depletion, and other powerful antiphlogistic remedies, necessary. She had frequently passed small calculi after her attacks of severe pain, the departure of the pain being suddenly accompanied with a sense as of something dropping towards the bottom of her body, and followed, in a day or two, by the voiding of a stone. On one occasion, she discharged a great number of small ones, of the size of peas, connected together by a string like beads. Dr. Venables procured one equal in size to a large nut, which, like the rest, had been passed naturally. It weighed twelve grains, resembled the triple phosphate in general appearance, and had actually some crystals of that calculous matter on its surface. It was of the consistence of wax, was not laminated, had a crystalline fracture, and a density of 1714.3. By the heat of the blowpipe, a strong peculiar fœtor was exhaled, and by the process of incineration, a whitish ash was procured, not alkaline. It was soluble in nitric, sulphuric, muriatic, and phosphoric acids, insoluble in water, alcohol, acetic, citric, and tartaric acids, as well as in the carbonate of ammonia. It was dissolved by the two fixed alkalies, and their carbonates, by lime water, and the solution of baryta. Acetic acid threw it down from its solution in alkalies These are the properties by which the calculus was proved to be the cystic oxide.

The urine was of the ordinary quantity, of a greenish-yellow color, like a nearly ripe melon, in taste slightly saline, of a peculiar odor, somewhat like that of the sweet-briar, of an oily-like consistence, and in specific gravity, between 1020 and 1025. It was turbid, from an impalpable powder, which, on standing, partly subsided, and proved to be chiefly mucous; but some turbidity still remained, which, by filtration, was proved to arise from fine particles of cystic oxide in suspension, with a little ammoniaco-magnesian phosphate, and some mucus. By long standing, a stratum at the top became clear and oily looking. The urine faintly reddened litmus, gave a precipitate of cystic oxide, with alcohol and with acetic acid, and a copious precipitate of mixed cystic oxide, and ammoniaco-magnesian phosphate, with the carbonate of ammonia. It was very deficient in urea; not a particle separated, on the addition of nitric acid to its sirupy extract. Lithic acid was also very defective, as none separated on the addition of the mineral acids, after the urine was evaporated to one third of its volume. The patient got much easier, and the urine more dense, the cystic oxide less abundant, and the lithic acid more abundant, by constant attention to the state of the bowels, and the administration of muriatic acid, and of pills made of sulphate of morphia, ipecacuanha, extract of colchicum, and extract of hyoscyamus.—*Ibid.*

PATHOLOGY.

5. *Human Horns.*—Dr. Pensa, of Naples, relates the case of a man with a horny excrescence over the uppermost portion of the right parietal bone; it was firmly adherent to the skin, and of the size of a goat's horn, being about six inches in length, of a spiral form, with two windings; its fore end was directed towards the back, and greatly impeded the movement of the neck. At the time that Dr. Pensa saw him, the person was 75 years of age; within the last five years, the horn had rapidly grown, notwithstanding which, he objected to its being removed, because he considered it as a sign of luck. In his 50th year, he had on the same part of his head, an encysted tumor, after the removal of which, the horn began to grow. The substance of the horn was very hard, and its nature rather oily; it was of yellow color, and fibrous texture. The continual increase of the horn ultimately determined the man to suffer the extirpation, which was performed without any difficulty: six weeks after the operation, however, two small horns began to shoot up from the cicatrix, but afterwards spontaneously disappeared.

The same phenomenon was observed by Dr. Pensa, in a man 80 years of age, who had a horny excrescence between the shoulders; it was moveable, and adhered to the skin only; its substance was very hard, similar to that of the nails, and semi-transparent.—*Journal de Pratique.*

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6. *Official account of the post-mortem Examination of George IV.*—The body exhibited but little sign of putrefaction; and the anasarca had disappeared, excepting some slight remains of it in the thighs.

Notwithstanding the apparent emaciation of his majesty's person, a very large quantity of fat was found between the skin and the abdominal muscles.

Abdomen.

The omentum, and all those parts in which fat is usually deposited, were excessively loaded with it. The abdomen did not contain more than an ounce of water.

The stomach and intestines were somewhat contracted; they were of a darker color than natural, in consequence of their containing mucus tinged with blood; and in the stomach was found a clot of pure blood, weighing about six ounces.

The liver was pale, and had an unhealthy granulated appearance.

The spleen, although larger than usual, was not otherwise diseased, and the pancreas was in a sound state.

The sigmoid flexure of the large intestine (the colon) had formed unnatural adhesions to the bladder, accompanied by a solid inflammatory deposit of the size of an orange.

Upon a careful examination of this tumor, a sac or cavity was found in its centre, which contained a urinary calculus of the size of a filbert, and this cavity communicated, by means of a small aperture, with the interior of the bladder at its fundus. In other respects, the bladder was healthy, and the prostate gland did not appear to be enlarged. The kidneys were also free from disease.

Thorax.

Two pints of water were found in the cavity of the right side, and three pints and three quarters in the left side of the chest. The left lung was considerably diminished.

The lower edge of each lobe of the lungs had a remarkable fringe, which, upon examination, was found to be formed by a deposit of fat.

The substance of the lungs had undergone no change of structure, but the mucous membrane lining the air-tubes, was of a dark color, in consequence of its vessels being turgid with blood.

The pericardium (or heart-purse) contained about half an ounce of fluid, but its opposite surfaces, in several parts, adhered to each other, from inflammation at some remote period.

Upon the surface of the heart and pericardium, there was a large quantity of fat, and the muscular substance of the heart was so tender as to be lacerated by the slightest force: it was much larger than natural. Its cavities upon the right side presented no unusual appearance, but those on the left side were much dilated, more especially the auricle.

The three semilunar valves, at the beginning of the great artery, (the aorta,) were ossified throughout their substance, and the inner coat of that blood-vessel presented an irregular surface, and was, in many parts, ossified.

The original disease of his majesty consisted in the ossification of the valves of the aorta, which must have existed for many years, and which, by impeding the passage of the current of blood flowing from the heart to the other parts of the body, occasioned effusions of water into the cavities of the chest, and in other situations. This mechanical impediment to the circulation of the blood also sufficiently explains those other changes in the condition of the body, which were connected with his majesty's last illness, as well as all the symptoms under which the king had labored.

The immediate cause of his majesty's dissolution was the rupture of a blood-vessel in the stomach.

HENRY HALFORD.
MATTHEW JOHN TIERNEY.
ASTLEY PASTON COOPER.
B. C. BRODIE.

[*London Medical Gazette.*

7. *Ossified Brain.*—M. C. Matteucci having examined a brain which he discovered in an old anatomical collection, found it to exhibit a singular case of ossification throughout its whole substance. When heated, it burnt, evolving ammonia, leaving a bulky charcoal. When examined by chemical agents, carbonate of lime was found in small quantity, and phosphate of lime in much larger, but the principal part of the mass was animal substance, closely allied to *Osmazome.*

The composition of the concretions that are sometimes found in the pineal gland, are, according to Fourcroy, of the same nature.—*Ann. de Chimie,* xlii. 335.

SURGERY.

8. *Exarticulation of the Thigh.*—From the Inaugural Dissertation of Dr. Sauvan, of Wilna, it would appear that this operation has been twice performed by Professor Pelican, of the same university. In one of the cases, a favorable termination may, perhaps, be said to have taken place, as the patient died, at the end of the ninth week, of typhus fever. He was a young man of 26 years of age, who had previously been in good health, but within the last four months became affected with encephaloid tumor of the upper part of the right thigh, which had lately attained an enormous size, and was accompanied by violent pain, hectic fever, great emaciation, &c. The tumor was three feet in circumference and one in length, and still increased, so that the operation was ultimately decided upon as the last means of saving the patient's life. It was performed according to Larrey's method, viz., by first tying the femoral artery, and then forming an internal and an external flap. In spite of the ligature of the artery, very great hæmorrhage ensued; in other respects, the operation offered nothing peculiar. On the eighth day, an inflammatory affection of the liver supervened, but it was readily subdued by bleeding, &c. At the end of the second month, cicatrization was almost complete, the general health of the patient was much improved, and a satisfactory result of the case was anticipated, when the patient, after an excess in diet, was affected with typhus, which proved fatal within a few days.

On examination, the origin of the profound femoral artery was found to be in the pelvis from the iliac; the abdomen contained a large quantity of serum: the cotyloid cavity was filled with pus, and communicated with the interior of the pelvis, by means of a small aperture.

In the second case, the operation was performed on account of necrosis and large fistulous abscesses. Some time before the operation, the patient, a peasant girl of 17, was infected with plica, after which, the disease of the thigh-bone rapidly improved; but, on the disappearance of the plica, almost immediately regained its former malignant character. The operation was performed in the same manner as in the first case, but proved fatal on the tenth day, under symptoms of pneumonia. In this case, also, a morbid communication between the cotyloid and abdominal cavity was found.—*Graefe's Journ.*

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9. *Entrance of Air into the larger Veins.*—It is sufficiently known, that this accident is of the greatest danger, being in most cases almost immediately followed by death. At one of the larger hospitals at Paris, a very eminent surgeon some time ago extirpated a tumor on the neck, for which purpose it was necessary to remove a part of the clavicle. On a sudden, the patient screamed out, and fell down as if he were dead. A very singular and loud noise was at the same time heard in the chest, depending, as was supposed, upon the air rushing into an opening in the pleura, and during the attempts to close this aperture, the patient expired. On examination, the pleura was found intact, and neither contained any air nor extravasation; an aperture was, however, discovered in the jugular vein, of about half an inch; the heart contained air instead of blood, and numerous bubbles of it were even found in the vessels of the brain. The practitioners present variously endeavored to account for the patient's death, which M. Majendie attributed to the entrance of air into the heart and vessels; he succeeded even in proving his opinion experimentally. The jugular vein of a dog was opened, and an elastic tube inserted into it; a peculiar noise, indicative of the entrance of air, was immediately heard in the animal's chest, and it fell down apparently dead. As soon as the tube was removed, the syncope ceased, but re-appeared on its being re-applied. Several means were tried to prevent this occurrence, but the only successful method was finally found by M. Majendie to be the aspiration of the air from the vessel by a syringe.

At the Hopital Saint Eloi, at Montpellier, the above accident happened to M. Delpech, under rather peculiar circumstances. He performed the exarticulation of the arm, from the glenoid cavity, on a young man of 22 years of age. Towards the end of the operation, a loud sucking noise was repeatedly heard by the assistants, who conceived that the pleura had been opened, and that the air forcibly rushed into it. A ligature had been placed round the artery before the operation; the vein and other vessels were now tied, and the patient was to be removed to his bed, when he all on a sudden fell into profound syncope; the application of stimulants roused him for a few instants, after which, he emitted a piercing scream, and died. On examining the body, the cavities of the pleura and pericardium were found healthy, and without any air and extravasation; the right auricle and ventricle, however, as well as the venæ cavæ, were enormously distended with air, which proved to be atmospheric. Very little blood was found in the right side of the heart, and it seems that the air had become dilated by the heat of the body, and thus prevented the further course of the blood through the heart.—*London Lancet, Sept.* 1830.

10. *Report of the killed and wounded in Paris during the late Revolution.*—According to the returns of the physicians and surgeons of the several hospitals, it appears that not less than 7000 men have been rendered *hors de combat*. They reckon besides nearly 1700 wounded, received into the hospitals and *ambulances*. M. Breschet reports 500 as the number taken into the Hotel Dieu; besides 300 out-patients, dressed by the surgeons of that establishment. The mortality has been by no means in proportion to the severity of the wounds—not more than 70 had died (up to the 10th of August); the greatest number of the wounded belonged to the working classes of the Fauxbourgs: out of the 500 there were no more than 25 of the military. A proportion nearly similar has been observed in the other hospitals. M. Husson remarks, that almost all the wounds were received in front—many of them in the chest and abdomen. Nor did the courage which the men displayed in the struggle, desert them on their bed of suffering; and those who underwent capital operations, endured them without a murmur. The moral condition of the military is remarked to have been very different, the greater number of them being quite overcome with despair. M. Louyer-Villermay relates the case of a soldier of the Guard, who sunk the day after the last engagement, without there being any perceptible wound or bruise to which his death could be attributed. The Beaujon has taken in 80; La Pitié, 120; La Charité, 150; the Military Infirmary, 200; Val de Grace, 20; a mason lodge, 80. Of the numbers received into St. Louis and St. Antoine, we have as yet obtained no official report: M. Cloquet promises a detailed account for the former hospital. Nor can we speak positively as to the numbers treated in the Ambulances, by reason of their perpetually changing condition. Almost all the wounds were from fire-arms—few from cold steel; they have been generally severe, most of them having been received in close combat, yet it is expected that most of the wounded will recover. M. Larrey has assured the Academie, that of the hundred which came under his care at Gros-Caillon, not one had died: several of them, however, had undergone serious operations.—*Journal Hebdomadaire.*

11. *Permanent Dilatation of Strictures of the Urethra.*—M. ——, thirty-eight years of age, of a strong constitution, was affected about sixteen years since with urethritis, to which he could not conveniently attend at the time, being upon a long voyage.

When M. —— had no intercourse with women, the running diminished, and even disappeared; but so soon as he gave himself up to venereal pleasures, the blenorrhagia would return, as if he had again contracted an urethritis. He frequently suspected the women with whom he had connexion, to be affected with blenorrhagia, but, on the contrary, not one of them ever had the least running. Every now and then he experienced difficulty in making urine—the stream would be thin and twisted. These phenomena would take place even when the running had disappeared. For four years, every time Mr. —— would exercise coition, the emission of urine would a few days after be accompanied by a little blood from the canal of the urethra; this flow of blood would give a reddish color to the urine, which besides contained mucus and whitish filaments. About this time he experienced intense pain in the region of the bladder: the running was very thick and copious, and the introduction of bougies and probes brought on hæmorrhage. The emission of urine was attended with the greatest difficulty.

M. —— consulted a physician, who, upon examination, found five strictures in the canal of the urethra. Leeches applied to the perinæum, local bleedings, baths, enemata, diet, and cooling drinks, allayed those symptoms. Notwithstanding the introduction of the bougies caused great pain, they were introduced into the urethra, to effect the dilatation of the strictures; but M. —— was almost always unable to bear them, and it was necessary to cease employing them. However, the long-continued use of bougies, notwithstanding the pain they occasioned, finally removed four of the strictures; one alone, five inches up, resisted that measure, and the pain about the bladder, with hæmorrhage, still took place. M. —— repaired to Vechy Springs, and was much benefited by the waters there. The pain about the bladder left him almost entirely.

Two years since, M. —— being in Paris, consulted Dr. Ribes, who advised one general bleeding, leeches on the perinæum, the use of bougies, baths, repose, and the emollient regimen. These measures allayed the pain about the bladder which he again suffered, but the running and the hæmorrhage still continued.

Shortly afterwards, M. —— came to consult me. After repeatedly applying leeches to the perinæum, I commenced with the iodine, at first in doses of twelve drops in a gummy potion, augmented to fifteen, twenty, and twenty-five drops. This, however, caused no diminution in the running.

By probing the canal of the urethra, I ascertained the existence of a circular stricture, situated five inches up the canal. The nit. arg. was applied four times, and the dilatation effected with bougies; but each time I took the cast of the stricture, a considerable quantity of blood issued from the canal, and this hæmorrhage again took place after cauterization, or the introduction of bougies. The stricture admitted the introduction of a bougie, one sixth of an inch in diameter. I then advised injections with wine, and also of chloride of sodium, but they caused great irritation.

I suspected that the mucous membrane of the urethra was in a state of ulceration. In order to restore to it the degree of solidity it had lost, I prepared injections with a decoction of gall-nuts. This occasioned so much irritation, as to require the application of leeches to the perinæum. I then advised M. —— to have an instrument made, by means of which he could apply to the affected part a brush or pencil, steeped in a solution of sulphate of copper, or sulphate of alumine and potash. Again irritation was the consequence, and the hæmorrhage still occurred each time that probes were introduced for the purpose of dilating the stricture. M. —— had for some time observed, that the presence of the bougie not only occasioned irritation about the stricture, but along the whole length of the urethra. This induced us to seek some method for dilating only the constricted part, without suffering the presence of a bougie or probe in the canal. A silken cord, covered with yellow wax, forming a full cylinder one and a half lines thick, one inch long, rounded at each extremity, and to one end of which was attached a thread of silk eight inches long, was introduced to the constricted part by the following means:—The thread was passed through the inside of a conductor, so that the cylinder of wax, pushed forwards by the conductor, was introduced upwards of five inches. The latter was then withdrawn, and the thread kept round the glans. M. —— supported the presence of the cylinder for about two hours, at the end of which time he withdrew it by means of the thread. We augmented the volume of the cylinder, first to two lines, then to two and three quarters in thickness. Every time M. —— withdrew the cylinder, there exuded a considerable quantity of light yellowish matter, but there was no hæmorrhage. However, although M. —— could bear the cylinder four hours, its presence occasioned irritation in the canal of the urethra, and about the glans. As the cylinder was solid, M. —— was obliged to withdraw it every time he wanted to void urine. With the hope of fortifying the mucous membrane of the stricture, and at the same time dilate the latter, we added acetate of lead to the wax, of which the cylinders were composed. The consequence was a still more considerable irritation, with a copious blenorrhagia, but no hæmorrhage. The application of the gum elastic, or of wax, either pure or mixed with acetate of lead, always bringing on irritation, we imagined that cylinders of silver might be better borne; and in order that M. —— might void his urine without withdrawing them, we had them made hollow. Our hope was well founded. M. —— was able to bear, for whole days, in the contracted portion of the canal, cylinders of silver, at first two lines, and subsequently two and a half, three, and four lines, without the least pain. Morning and night, with the waxed cylinder of which we spoke, M. —— applied to the stricture a weak solution of the sub-acetate of lead. After the continued use for about ten days of these cylinders, the running almost entirely ceased, and the urine passes with the greatest facility. We have, however, advised M. —— to still continue using them for some time to come.

Previous to the introduction of the dilatator, we took a cast, to ascertain of what diameter our cylinder must be, and the exact situation of the stricture. We passed the thread through a graduated conductor, so that the dilatator was, as it were, an appendage to it. The conductor, armed with the dilatator, thrusts the latter before it, penetrating the canal of the urethra. On reaching the stricture which we wish to dilate, we force it to enter, and when retained there, we withdraw the conductor, and attach the silken thread around the glans, or to ribands placed around the penis. The patient bears the presence of the dilatator for twenty-four or thirty-six hours, voids urine without difficulty, and can attend to his business. It sometimes happens, that the stricture diminishing, the instrument is pushed forward by the urine. In this case we withdraw it entirely by means of the thread, and introduce another of greater diameter.

This permanent dilatation presents both advantages and difficulties. By employing it, we stretch only the constricted part of the canal; the remaining parts are not placed in contact with any foreign body; a permanent dilatation is effected in twenty-four or thirty-six hours, and abundant secretion is excited from the constricted part; a prompt and safe result is obtained; and the patient is spared the pain experienced by all other methods.—*Desruelles.*

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12. *M. Roux on Excision of Diseased Joints.* (*Revue Médicale, Janvier*, 1830.)—We need not observe to our readers, most or all of whom must have perused the papers published on this subject in our Journal, by Mr. Syme, that, although the operation of excision of the joints of the extremities has been long known in surgery as a substitute for amputation, it has been but little practised in this country till within these few years. The credit in which this operation now stands, is owing, in a great measure, to the activity and success with which this gentleman has practised it on all suitable occasions. During his exertions to bring it into general notice here, it appears that M. Roux has been similarly occupied at Paris; and, therefore, although his experience of its safety and advantages is far from being so extensive, and is not altogether so flattering, as that of Mr. Syme, we conceive it important to make known the results obtained by a foreign surgeon of such celebrity.

M. Roux observes, that notwithstanding the frequent success obtained in France by MM. Moreau, father and son, and by M. Champion, the operation continues to be held in great disrepute among his countrymen, and that he believes he may safely assert, he is the only surgeon in Paris who has tried it often enough to be able to appreciate its difficulties, its inconveniences, and its advantages.

He considers, that in all probability it will be right to abandon it entirely in repect to the joints of the lower extremities, and especially that of the knee. For excision here produces too much injury; there are too many accidents to dread. Once only has he performed excision of the knee, and that was against his own opinion, at the express desire of the patient, who expired in nineteen days. "Even when the operation is performed without the sacrifice of life, the preservation of such a limb will probably be more inconvenient in standing or walking than the timber leg used after amputation."

"But as for the arm,—destined in man for so many noble and important purposes, and so useful even when it has sustained serious injury, or is more or less deformed, provided the hand be preserved entire,—it is wrong not to attempt to derive all the profit possible from the excision of the diseased joints of such a member. At the elbow, particularly, it appears to present the greatest advantages, so that it is impossible to imagine why so many able surgeons prefer amputation. Undoubtedly excision of the elbow-joint, by which I understand the removal of the whole lower extremity of the humerus, as well as the upper end of both bones of the fore-arm, is, if not difficult, at least laborious in its execution: Fifteen or twenty minutes are scarcely sufficient for its proper performance; it leaves a very extensive wound, which suppurates abundantly, notwithstanding the greatest care to approximate and unite the flaps, which must be formed to reach the bones. And to these objections it must be added, that several months are required to complete the cure. But if the limb is preserved and restored in all its functions, and if life is not more, or rather is actually less endangered than by amputation, are these disadvantages not abundantly compensated? This compensation is satisfactorily established by the following facts, which, without being in themselves more curious or important than those for which the surgical art is indebted to MM. Moreau and Champion, are at least more recent, and, I may also hope, of a nature to carry conviction with them.

"I have performed the operation of excision of the elbow four times. The first was in 1819, the last a few months ago; one in the right arm, and three in the left. Three of the patients were males, one of whom was 37, the two others 21 and 22 years of age; and the fourth was a girl of 19. In all, the affection of the elbow was apparently of a scrofulous origin, and had attained a very advanced state of progress; for the joint was greatly swelled, and surrounded by many fistulous openings, and the operation exposed an extensive fungous degeneration of the cellular tissue, as well as disease of the articular ends of the bones. I shall not describe the special disease in each case; neither shall I relate the method of operating, which was nearly the same in all, or the ulterior treatment required for accomplishing the healing of the wound, and preservation of the movements of the arm. My sole object is to state the definite results.

"Of the four patients, one only died of the accidents immediately connected with the operation. The first dressings had been removed, and the wound several times dressed anew, and suppuration had commenced in the interior of the wound; nay, several of the sutures for preserving the flaps in apposition had been also withdrawn, when hemorrhage took place from beneath the flaps. This returned repeatedly; so that at length it became necessary to think of amputation, to save the patient's life. Perhaps I hesitated about it too long: death ensued in three days. In the three other patients, there was not a single serious circumstance to complicate either the immediate or remote consequences of the operation; life was not for a single moment in danger. The cure, indeed, was not accomplished so quickly as might have been desired; occasionally, too, I dreaded a too abundant suppuration; it was also necessary to take measures against the retention and accumulation of pus in particular spots; and although one of the three was quite well three months after the operation, on the other hand, the two remaining patients did not recover entirely for eight or nine months. But ultimately, the arm was preserved in every instance, and in every instance its movements were partially recovered. Unfortunately, the patient I first operated on in 1819 was attacked with phthisis only a few months after recovering the free use of the arm, and died of this disease, the seeds of which probably lurked in her constitution before the operation was performed. The two others, of whom one had the joint cut out two years, and the second three years ago, are at present alive, and in perfect health, and follow their customary occupations at Paris. One is a grinder, and the other a mantua-maker."

We shall leave the reader to compare the preceding extract with the results obtained by Mr. Syme, as detailed in his papers in this Journal, xxvi. 49; xxxi. 261; xxxii. 235; xxxiii. 233. It appears, that of seven cases of excision of the elbow, he has not lost one; that all have regained, or at the time of their dismissal were in the fair way of regaining, considerable freedom of motion in the arm; that of two cases of excision of the knee, one was recovering the use of the limb, while the other died of amputation, which was rendered necessary by the disease of the thigh-bone having been more extensive than was anticipated; and that in one instance the head of the humerus was cut away, with the effect of forming a joint which promised to be useful.

Through the kindness of Mr. Syme, we have lately had an opportunity of examining three of these cases. One was the case of excision of the head of the humerus, related in our 26th volume. This woman we found actively employed in washing clothes, which fact might be alone sufficient to satisfy every one that the shoulder-joint is of great use to her. The humerus is, in fact, movable in every direction, and to nearly as great an extent as the natural joint. She has also the power of moving it freely and powerfully in every direction, except directly outwards from the body; and the joint is so strong, that she can raise a pitcher of water in the hand of that side; but this is rather a greater exertion than she feels it safe to make habitually. The elbow joint, and the joints of the hand and fingers, are as entire as ever. The shortening and deformity of the arm are very apparent when the shoulder is naked; but when it is covered, the arm might, on a cursory examination, be very readily mistaken for a sound one.—The second case was one of the instances of excision of the elbow-joint. The operation was performed a twelvemonth ago. There is considerable freedom of movement, and the patient retains completely the voluntary power of bending the fore-arm, but has the power of extending it only in a slight degree. He can raise a heavy body with ease, can strike a straight-forward blow with considerable force, and preserves entire all the movements of the wrist and fingers. There is very little shortening of the arm.—The third case was the instance of excision of the knee-joint, mentioned in the 103d number of this Journal. There is still a small sore, with a trivial discharge, under the new joint. This joint is in a state of slight permanent flexion, and admits of but trifling motion in any direction. But the motions of the ankle and toes are entire. On the whole, this case does not hold out much encouragement to practise the operation of excision of the knee-joint, and Mr. Syme is inclined to form the same conclusion with M. Roux,—that a timber leg will probably be more useful than any leg which can be formed after excision of the joint.—*Edinburgh Medical & Surg. Journal, July*, 1830.

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13. *On the Treatment of Ununited Fractures with the Seton.* By Isaac Hays, M.D.—In the surgical lectures of William Lawrence, Esq. of London, now in the course of publication in the London Medical Gazette, we find the treatment of ununited fractures dismissed in the following cavalier manner. "Another mode of proceeding in these ununited fractures," says Mr. Lawrence, "has been that of passing a seton between the broken ends of the bone, and leaving it there, in order to excite in the ends of the bones, and the neighboring soft parts, that action which is *supposed* to be inefficient. After a certain degree of inflammation has been excited by the seton, it is then to be withdrawn, trusting the union to natural powers. *I believe it may be said, that there are some* TWO *or* THREE *instances recorded, in which, after some weeks or months of confinement, with a good deal of pain and danger,* the union has been effected in this way; but in other cases, the introduction of the seton has failed."

We confess ourselves at a loss how to notice this summary and contemptuous dismissal of a method of treating ununited fractures, and one which, contrasted with the *painful* and sometimes *fatal* operation for which it was proposed as a substitute, it appears to us can hardly be too highly extolled.

The apparent accuracy with which the lectures are given in the Gazette, seem to forbid our ascribing so material a mis-statement to an error of the reporter; the high character Mr. Lawrence has hitherto sustained for fairness and candor, equally prohibits the imputation of intentional misrepresentation on his part; and yet it is impossible to suppose that Mr. L., who is distinguished for extensive erudition, should be ignorant of cases published in the Medico-Chirurgical Transactions of London, the Edinburgh Medical and Surgical Journal, the London Medical Repository, the Medico-Chirurgical Review, the London Medical and Physical Journal, the London Medical and Surgical Journal, the Dublin Hospital Reports, Charles Bell's Operative Surgery, and Cooper's Surgical Dictionary, in which no less than THIRTEEN different cases of ununited fractures, *successfully treated by the seton*, are related. Be the case, however, as it may, the statement has been put forth as coming from Mr. Lawrence, and until disavowed, subjects him to the charge of ignorance or want of candor; we therefore think we are performing an act of kindness to him, in calling his attention to this subject, that it may be explained; and at the same time, as an act of justice to the eminent surgeon who devised the method of cure under consideration, we shall give a brief summary of such cases of ununited fracture successfully treated by the seton, as we find in the works in our private library, not having time at the present moment to have recourse to more extensive sources of information.

The use of the seton as a means of curing ununited fractures, was originally suggested, as is acknowledged, by Dr. P. S. Physick, of Philadelphia,* and first put in practice by him on the 18th of December, 1802. The subject of this case was a sailor twenty-eight years of age, admitted into the Pennsylvania Hospital in the preceding May, in consequence of having fractured his left arm above the elbow-joint a year previously, and the bones not having united, his arm was nearly useless. A seton needle was passed between the fractured ends of the bone; "*the patient suffered very little pain from the operation;*" "after a few days, the inflammation (*which was not greater than what is commonly excited by a similar operation through the flesh, in any other part,*) was succeeded by a moderate suppuration;" and at the end of five months, the arm was as well and strong as it had ever been. The account of this case first appeared in the Medical Repository of New-York, vol. i. 2d Hexade, 1804, and was republished entire in the Medico-Chirurgical Transactions of London, vol. v. 1819.

The subject of this case died in Philadelphia only a few months since, and we have his left humerus now before us. He was attended during his last illness by our friend, Dr. J. Randolph, who, knowing him to be the person upon whom Dr. Physick had operated twenty-eight years ago for artificial joint, obtained leave to make a post-mortem examination, and procured the humerus in question. Dr. Randolph has kindly lent us this valuable pathological specimen, and granted us permission to have a drawing of it made. The bone is nearly straight, and at the place of fracture there is a considerable mass of bony matter, through the centre of which there is a hole large enough to admit a small quill, which no doubt was made by the introduction of the seton, and of course shows the place through which it passed. A short time before his death, the patient assured Dr. Randolph that his left arm was as strong as the other; and that he had not, since the union of the fracture, suffered any inconvenience from the accident.

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* "It is not a little extraordinary, that in the last edition of Cooper's Surgical Dictionary, *reprinted in New-York*, and *edited by an American surgeon*, that Dr. Physick should be twice referred to in the article on fractures, as Dr. Physick, *of New-York!* The editor surely cannot have read the article, or he would not have permitted so gross an error to be perpetuated."

Dr. Physick, in 1822, employed the seton with success, in an ununited fracture of the lower jaw, and an account of the case, written by the patient, will be found in the Philadelphia Journal of the Medical Sciences, vol. v. The patient states, that his lower jaw was fractured March 20th, 1820, in two places, on the right side transversely, and on the left obliquely. The transverse fracture healed, but the other fracture remained ununited at the end of two years, which caused "great inconvenience from the pain occasioned by the motion of the fractured parts in the broken jaw, whenever I attempted to bite any substance as hard as a crust of bread. My bodily strength gradually decreased, as I had a very sickly appetite, and was rendered incapable of receiving proper nourishment. My frame being debilitated in this manner, I seriously felt the effects of changes in the weather; and every time I contracted a cold, it settled in my jaw, and rendered the broken parts so sore, that for some days afterwards I was unable to eat any thing except spoon victuals; and from the slight hopes I entertained of ever recovering from this misfortune, I was rendered truly unhappy, and felt wretched when compelled to enter into any of my usual avocations." Dr. Physick introduced a seton, and "at the expiration of eight weeks. the outside of the bone became very much inflamed, and continued so for three or four days, accompanied with very acute pain, after which the pain subsided, and the inflammation decreased." In the course of the eleventh week, union of the fragments had become consolidated, and the cure was soon completed.

Dr. Physick has likewise successfully employed the seton in other instances of ununited fractures, no details of which have, however, been made public, the utility of the remedy appearing to him so well established, that no additional evidence seemed necessary, and he therefore preserved no records of the cases.

That the remedy has failed in some instances, is certain; but what remedy is always successful? and the want of success in some instances is attributed by Dr. Physick to the improper mode in which the operation was performed, and in others to the seton not having been continued a sufficient length of time. Dr. Physick recommends the operation to be performed with a very long seton needle, armed with a silk ribbon or French tape; this needle should be passed *through the integuments*, and between the ends of the bone. He considers this mode preferable to cutting down to the bone with a scalpel, as has been done by some surgeons. The seton ought to be left in the wound for four or five months, or even longer if necessary.—*American Journ. Med. Sc. Nov.* 1830.

PRACTICE OF PHYSIC.

14. *Modes of Treating Intermittent Fever pursued at the various Hospitals of Paris.* (*Journ. Complément. Février*, 1830. *No.* 140.)—It will be curious, and may be useful, to notice a resumé of the Parisian modes of treating intermitting fever, which has lately been published in a French contemporary. It is singular that scarcely two physicians in this metropolis treat an ague in precisely the same manner, though all agree in the principle of administering bark in one of its many forms. One will commence with a vomit; another with a purge; a third will neither vomit nor purge, but proceed at once to the cinchona; and a fourth, whom we take to be the most judicious of the whole, will adapt his emetic, or his calomel and jalap, or his sulphate of quinine, to the duration of the complaint, the character of the accompanying symptoms or lesions, and the relative condition of the patient. Let us see how matters stand with our Parisian confrères.

It appears, that in Paris, as in this country, intermittent fevers have been more prevalent within these last few years, than they had been for some time previously. The ratio principii, or cause, is keenly disputed on the other side of the water, and some local circumstances are thought by one party to afford an explanation of the circumstance. This may, in part, be true, but the general occurrence of aguish complaints in many parts of Europe, which had latterly been free from their visitations, must depend on some more potent and extensive influences. It is more than probable that these exist in the atmosphere rather than the earth, for the seasons have exhibited considerable alterations from the ordinary and "even tenor of their way," since 1825.

Hopital Beaujon.—During the year 1827, one hundred and eighteen patients affected with intermittent fever have been admitted into this hospital. There ordinary time of remaining in the institution is thirteen days. Of these 118 patients, 96 were males, and 22 females, but as the beds for the former are one-sixth more numerous than those for the latter, the calculation will be 82 men to 20 women, or as four to one. No doubt the causes of this great disparity between the liability of the sexes to ague, must be looked for in their different habits of life, as well as in the circumstances of profession and exposure. Ferty-two of the individuals were above thirty years of age, seventy-six below it. Twelve cases occurred in winter, thirty-seven in spring, forty-two in summer, and twenty-seven in autumn. The quartans predominated in winter, the tertians in spring and autumn, and the quotidians in the summer. The majority of the patients from the country were from Boulogne, Point-de-Jour, or other such damp localities, whilst the Parisians were mostly inhabitants of the dark narrow streets in the vicinity of the Seine, or persons with sedentary and unwholesome occupations.

The writer of the foreign article on which we are now employed, who appears to be an offset from the "physiological" trunk in the Val-de-Grace, in other words, a disciple of Broussais, lays down the following rules of treatment, founded on those which guide that celebrated systematist. 1mo. The first means should be directed against the irritation in the system, the removal of which generally removes the fever also. Our author has seen *many* of these affections, intermittents, yield to antiphlogistics only, at the Val-de-Grace.* 2ndo. If symptoms of gastric or intestinal phlegmasia be present, we should abstain from administering febrifuges in the first instance. 3tio. When the irritation is confined to the mucous membrane of the primæ viæ,† it is proper to administer them by the colon, and vice versa. 4to. The febrifuges, especially quinine and its preparations, being used as irritants, should only be employed in small doses. Making some allowances for modes of expression and national usages, as in the *lavement* proposition, the above rules are very good ones, and deserving of more consideration than they often seem to receive, in practice.

In the 118 cases that occurred at the Hospital during 1827, M. Renauldin, the physician in charge, pursued the following method with universal success. After the first paroxysms, six grains of the sulphate of quinine, in three pills, were given, until two periods had passed over without a fit; the same medicine was then continued for eight days, the dose being gradually diminished, and a pill being given from hour to hour, in such a manner that the last was taken two hours before the expected paroxysm. The diet was good until the cessation of the fever.

Hôtel Dieu.—M. Husson, one of the physicians to this establishment, gives the sulphate of quinine internally, unless there be evident counter-indications. He begins with doses of one or two grains, which he augments progressively and indefinitely, according to the obstinacy of the complaint. A severe tertian was arrested in a girl of sixteen, by a single grain dose of the sulphate.

M. Récamier usually begins with four or six grains of the quinine, and increases the dose daily, if necessary, to twelve, fifteen, or eighteen grains in the twenty-four hours. Such is the treatment of *ordinary* cases by the other physicians of the Hôtel Dieu, as well as by those of the Charité, and other institutions of Paris.

M. Bally, who believes in the *essentiality* of fevers, in the most ancient and extended sense of the term, maintains that the sulphate of quinine is only an irritant when given in small and repeated doses. Accordingly he prescribes it in very large ones, beginning with thirty-six, forty, or even sixty grains in the twenty-four hours.

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* The Broussaians are then more fortunate than we. Is it because their doctrine teaches that they *should* be so?

† By primæ viæ, the *upper* portions of the intestinal tube are obviously alluded to.

M. Bally asserts, that this practice not only arrests fevers promptly, but prevents the occurrence of the organic alterations that are too often left behind. Like those who pursue the very opposite plan, M Bally can appeal to a number of successful cases. This physician has been recently experimenting on the *salicine*, or principle obtained from the bark of the willow. In the case of a young pregnant woman, who attributed her complaint to terror, and suffered from *two fits* during the day, the fever was allowed to run on for seven days, and eighteen grains of the salicine in three doses were then prescribed. The remedy was continued for the two succeeding days, when its use was discontinued, on account of some irritation which it seemed to produce in the throat. The fever was perfectly arrested. The reporter adds, that several other equally conclusive cases have occurred in favor of this medicine.

The ligature of the limbs has been tried several times at the Hôtel Dieu, and with occasional success, but not sufficient to inspire any extraordinary opinion of its powers in the minds of the experimenters.

La Charité.—Experiments have been made at this hospital on the febrifuge powers of the misletoe in powder, which has lately been represented as more efficient than even the sulphate of quinine. M. Chomel has employed it on five or six patients during the course of the last autumn, but without success. The following facts deserve to be recorded and remembered. It is not because the virtues of a miserable drug like the misletoe, if drug it can be called, are put in question, but because the same circumstances step in to disturb our reasonings and vitiate our conclusions with respect to more potent and efficacious articles of the materia medica. The fact, then, to which we would draw the attention of our readers, is this:—M. Chomel being desirous of testing the powers of the misletoe, selected, last autumn, twenty-two patients laboring under intermittent fever. Before exhibiting the medicine, he waited for the appearance of some paroxysms, and the consequence was, that in seven the fever ceased spontaneously, and a cure ensued without the aid of any medicinal remedy whatever. In four other patients, the paroxysms gradually and spontaneously diminished, and required a very small dose of the quinine for their complete dispersion. Of the eleven remaining individuals, eight displayed symptoms of intermittent phlegmasia, and were cured by antiphlogistics: and the final three, who alone became subjects for the misletoe, experienced no benefit from its use, but were cured by the quinine. This does not prove much in favor of the misletoe.

Here we must conclude, and perhaps we may be allowed to observe, that so long as good bark is to be procured, practitioners will trust little to the inferior remedies which chance or ingenuity may point out as its substitutes. If a time shall arrive when cinchona is no more, or so scarce as to be sealed to all but the gold of the wealthy, then, and not before, will the numerous indigenous or foreign bitters be put into requisition for the treatment of ague. At present, bark and arsenic are worth ten times more than the whole of them.—*Medico-Chirurgical Review. July,* 1830.

Professor N. Chapman on the treatment of Angina Pectoris.—The treatment of this disease is necessarily divided into what is proper during the paroxysm, and in the interval, in reference to a radical cure. As soon as possible, the patient is to be placed in a state of rest and tranquillity. Next, where the symptoms are urgent, and the pulse tolerably vigorous, we are to use venesection, and to prove effectual, the quantity of blood detracted must be large. Ten, fifteen, or twenty ounces, are to be taken at once; and we may sometimes find, in the more violent cases, a necessity for repeating the operation in the course of a very short time. The fact is, that the case may be of such a nature as to admit of no delay, and, as in some similar emergencies, a feeble and timid practice is inevitably fatal. It is, therefore, a good rule to urge the lancet till relief is afforded, or as far as we can consistently with safety. But should this general depletion be forbidden, or prove ineffectual, cups or leeches may be applied with great utility to the back or cardiac region, and a blister to the breast. The bowels are then to be opened freely with some prompt purgative.

It will be perceived, that the course I have recommended differs very widely from that indicated by most of the European writers. Considering the complaint as spasmodic, they resort pretty much to the class of means, the best suited, in their estimation, to overcome this form of diseased action—such as opium, ether, musk, camphor, &c.

No doubt, either in the incipient stage of the paroxysm, or when it is in a measure subdued by depletion, this treatment will very often answer well. It is precisely what I would do under such circumstances, and have done, with the greatest advantage. Given at the very commencement of an attack, a dose of laudanum, or ether, we shall find, very generally, to afford relief—and either of these articles, or the musk julep, is not less effectual after depletion. The point for which I contend, is, that the paroxysm being completely formed, and of a vehement character, attended by severe cardiac spasm, or engorgement, can only be subdued, or, at least, that it is more speedily and effectually subdued, by venesection, and its auxiliary evacuations, than by any other means. Yet, where the strength of the patient is greatly depressed, we must recur to venesection with circumspection, lest in such state the system should not react, and we might produce irreparable mischief.

To invite the disease to the extremities, is an indication never to be lost sight of at this period, to effect which, we must resort to stimulating pediluvia and sinapisms, or blisters, with all the other measures employed under similar circumstances in irregular or misplaced gout. By this course I have sometimes succeeded in affording speedy relief.

This brings me to the consideration of the remedies to be directed in the interval of the paroxysm. They are topical and general, and with the former I shall commence. Every practitioner confesses the importance of establishing some counter-irritation or drain in this disease. It was formerly the custom to accomplish this by a perpetual blister to the chest, but of late the peculiar irritation from the emetic tartar plaster, or ointment, seems to be preferred, and is now very generally substituted.

Yet, scarcely less is said of the efficacy of issues introduced into the inside of the thighs, by which alone there are recorded not fewer than eight or ten cures, proceeding, too, from such authorities as M'Bride, Darwin, &c. &c. As encouragement to this practice, it is stated by Blackall, that one of his patients, who had never for a single week been free from the disease, for ten years together, lost every vestige of it for the last nine months of his life, during which he suffered from ulcers of his legs.

By Laennec a remedy has been very confidently proposed, with which I have no experience, and merely mention it on his authority. It is the magnet, used in the following manner. He applies two strongly magnetized steel plates, of a line in thickness, of an oval shape, and bent so as to fit the part, one to the præcordial region, and the other exactly opposite on the back, in such a manner that the magnetic current shall traverse the seat of the affection. Without claiming infallibility for this remedy, he avers, that it has succeeded better in his hands than any other, as well in relieving the paroxysm, as preventing its return.

The general treatment usually consists chiefly of those tonics and nervines which are so much relied on in all the nervous or spasmodic affections. The bark and valerian had at one time a high reputation; but neither these, nor any other of the vegetable tonics, are now much used. Much more confidence is placed in the mineral articles, and especially in the preparations of copper, zinc, and the nitrate of silver. Cures are reported to have been performed by each of these medicines—two very remarkable cases of which are to be met with in the London Medical and Physical Journal, by Dr. Cappe, in proof of the efficacy of the last.

No one of the preceding articles have I ever employed. Convinced of the correctness of the pathology of the disease, which I have advanced, I have always acted accordingly in the management of the cases of it presented to my attention. The plan I pursue, is, in the first place, to inculcate the importance of studiously avoiding all the exciting causes of a paroxysm; and, next, to conduct the treatment exactly on those principles, and by the remedies suited to an atonic or disordered stomach, so as to do away the predisposition to spasm. It is essentially necessary, with this view, that the diet be light and digestible—that the bowels should never be constipated, and that exercise in a carriage, or by equitation, be moderately used. It is of consequence to recollect, that in some of these cases, when the slightest movement on foot brings on a paroxysm, or proves highly distressing, any degree of exercise may be taken in the modes just indicated.—*American Journal of Medical Sciences for Nov.* 1830.

16. *Hysteria.* [*Review of Tate on Hysteria.*]—Next to the merit of discovery and originality of views, ranks that of reviving old opinions, and presenting them in new and interesting lights. By means of this invaluable talent, the partial hypothesis is for the time converted into a theory of general application; the exploded doctrine which was thrown aside as an idle gewgaw, is stripped of its antiquarian rust and obsolete terminology, and, under new and more auspicious names, is once more introduced to the attention of the world.

It is long since hysterical disorders were attributed to the influence of the womb on the system of the female; and, indeed, the very name is a testimony of the supposed origin of these maladies. Hippocrates, Galen, Aretæus, and Celsus, all the authorities of antiquity, agreed in tracing this complaint to some distemperature or derangement in the functions of this mysterious organ. The same doctrine was maintained, though with numerous extravagant and foolish fancies, by the authors of the middle ages; and Bernard Gordon, John of Gaddesden, Berenger, and all their contemporaries, pupils and followers, made liberal use of the *matrix* and the menstrual secretion, in explaining the nature of hysterical maladies, which they regarded as suffocation of the former organ, and ascribed either to its excessive repletion, or to preternatural retention of the menstrual flux, or of something which they imagined to be a uterine spermatic fluid.

The first who called in question the justice of these opinions, appears to have been Charles Piso, who not only acquitted the womb of every share in the mischief, but ascribed the complaint to congestion at the origin of the nerves. Many years after this theory was proposed on the continent, Nathaniel Highmore advanced a different one in this country, and looking at the affection of the organs of respiration in hysterical disorders, imagined he could trace them solely to an impetuous determination of blood to the lungs. This notion was destined to enjoy neither extensive nor long-lived celebrity; and the original Hippocratic doctrine appears to have maintained its ground pretty generally among physicians, till the time of Willis, who undertook at once to demolish the doctrine of Highmore, and reviving that of Piso, gave it those modifications and extensions which have enabled it to retain an influence, more or less general, among all the medical schools of Europe, for more than a century and a half. The doctrine of this ingenious physician was, that though the hysteric disease depends occasionally on disorder of the womb, or even of other organs, its general cause is in all cases to be found in the brain and nervous system. Had Willis paused at this point, it had been well for his theory, as well as its influence; but by attempting to specify the precise nature of the lesion of the nervous system, he involved himself in the mystical doctrines of the animal spirits, and gave vent to much incredible and fanciful speculation.

The influence of Willis appears never to have been sufficient, nevertheless, to banish entirely the original notion of the connexion between hysterical disorders and the female organs of generation. The circumstance of the occurrence of the paroxysms mostly at the menstrual periods, the prevalence of the disease in the unmarried, the barren, and in widows, its production by peculiar mental emotions, and its occasional occurrence along with phenomena too delicate to be much insisted on, but too distinctly betrayed to be overlooked, were quite sufficient to show that the disease is more or less closely connected with the state of the functions of these organs. This connexion, accordingly, has been remarked by all practical authors, and by all the best nosological writers. There is, indeed, nothing absurd in combining the Hippocratic with the Willisian doctrine, and believing that the disease, though dependent on the state of the uterus and its appendages, is also under the influence of the nervous system.

This view, which is doubtless the most natural, and on the whole the most consistent with the phenomena, has, accordingly, been adopted by Whytt, the most accurate of practical observers, and by Sauvages and Cullen, our most able nosological authors. The former, after tracing most distinctly the extensive sympathies of the uterus, and their influence on the formation of the hysteric disease, proceeds subsequently to say, that "an obstruction or suppression of the *menses* may produce nervous or hysteric disorders, either from the sympathy of the womb with the other parts, from a redundancy of blood, or from the retention of something hurtful to the nerves."* Both the nosologists, in like manner, distinguished the origin of the hysteric disease from this cause; and the latter allows "that physicians have at all times judged rightly in considering this disease as an affection of the uterus, and other parts of the female genital system." We have little doubt, that partly the actual difficulty of the task, and partly the delicacy of the subject, caused him to say, that on this point he could go no farther, and that he could not pretend to explain "in what manner the uterus, and in particular the *ovaria*, are affected in this disease; how the affection of these is communicated to the alimentary canal; or how the affection of the latter, rising upwards, affects the brain, so as to occasion the particular convulsions which occur in this disease." It is indeed a matter of difficulty, to say how far it may be prudent to admit the doctrine, that a woman of correct moral principle and well regulated thought, may nevertheless become the slave, as it were, of an organ which is well known to be under the influence of the emotions. It constitutes, indeed, a species of materialism, to which few persons of correct minds would be willing to allow much weight; and accordingly Dr. Hamilton, in his observations on the origin and cause of hysteria, treated it as a visionary and fanciful supposition.

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* Observations on the Nature, Causes, and Cure of Nervous Disorders, chap. iv.

What Whytt, Sauvages, Cullen, and Hamilton, however, hesitated to undertake, the craniological physiologists of Vienna regarded as a very easy task; and while the elder flattered himself that he had discovered, the younger apostle labored to demonstrate, the bold and extraordinary doctrine, that the lobes of the cerebellum preside over the organs and functions of generation, and become the primary seat of disorder during the hysterical paroxysm and in hysterical complaints. It must not be denied, that various facts give an air of speciousness and plausibility to this hypothesis; and if it might be said, that the occipital region of the hysterical lady of Vienna, who inspired Gall with the happy idea of cerebellic influence, was not warmer than any part of the person of that celebrated individual, still it may be replied, that the instances in which injuries of the occipital bone and cerebellum have been followed in the male sex with impotence, show that the connexion is more than imaginary. We believe it is impossible to deny, that in *hysteria* there is an affection of the brain and nervous system; but the facts hitherto known, do not permit the physiologist to fix the exact locality in the cerebellum. It is also equally impossible to question altogether the affection of the sexual organs; but of the mode of their affection, and of the manner in which they influence the brain, and are influenced by the nervous system reciprocally, as little was ascertained by Gall and Spurzheim, as by Cullen.—*Edinburgh Med. and Surg. Journal. July,* 1830.

MIDWIFERY.

17. *Extirpation of the Uterus.*—In the morning of the 20th of June, this operation was performed by M. Dubled, in the presence of M. Récamier and several other practitioners. The operator evinced as much skill and *sang-froid,* as the patient did courage and resignation; she died, however, twenty-two hours after the operation. She was twenty-seven years of age, and had borne three children, the youngest of whom was scarcely nine months old. A short time before her last confinement, she had been in the Hôtel Dieu under M. Récamier, with carcinoma uteri, which made very rapid progress, and of which M. Récamier had told her she could not be cured but by a very painful operation, which he, however, declined performing himself, having resolved never to perform the extirpation of the uterus again. The operation lasted twenty-

five minutes, on account of the extreme softness of the os uteri, which rendered it impossible to draw down the uterus into the vagina. The ligatures were applied before the division of the broad ligaments, and no great quantity of blood was lost during the operation. Towards the evening, the abdomen having become tense and painful, and there being also considerable febrile excitement, she was bled. and had leeches and emollient fomentations applied to the abdomen. She passed a rather restless night: a slight discharge of blood took place, which was arrested by cold compresses. She died on the morning of the 21st, twenty hours after the operation. On examining, the peritoneum and intestines were found perfectly healthy; a small quantity of dark-colored blood was found in the small pelvis. The ligatures were found to have been well applied. —*Lanc. Franc.*

18. *Puerperal Fever.*—M. Tonnelé has published a long article on the above disease in the Archives for March and April, 1830, as observed in the Maternité Hospital, in the year 1829. Of many cases whose dissections are given, we shall notice the only four in detail, as bearing on a point of pathology now under investigation in this country.

Case 1. Mary B., aged 23 years, experienced on the second day after her accouchement, acute pains in the hypogastrium, with fever. Forty leeches were applied, and produced much relief. But the next day brought a renewal of the pains, to which were added abundant diarrhœa and frequent vomiting. The lochia became suppressed, the breasts collapsed. Sixty leeches were applied to the abdomen, and forty more in the course of the day. Next morning the patient appeared easy, and the lochia re-appeared. On the fourth day, there was great agitation and tendency to faintings. On the fifth, delirium came on, and she complained of pain in the thigh, which was somewhat *œdematous* on the fore-part. On the sixth day, she began to expectorate blood and fetid matters—had involuntary motions—and rapidly sank.

On examination, there was found much sero-purulent effusion, with false membranes in the cavity of the peritoneum. The cervix uteri and broad ligaments were infiltrated with pus. The majority of the uterine veins were gorged with the same fluid. The extremities of the fallopian tubes were injected and thickened—the ovaries enlarged and softened. There was a gangrenous focus in the right lung. To the above morbid appearances, was added *suppuration of the whole leg affected;* even the muscles were infiltrated with pus. No mention is made of any affection of the veins of the limb.

Case 2. G. ——, aged 37 years, of good constitution, experienced, on the third day after delivery, the symptoms of intense puerperal fever, which were met by most active treatment, and abated towards the eighth day; but the fever and abdominal pain soon re-appeared —great restlessness and delirium supervened—and the patient sunk on the fifth day of the relapse.

On dissection, there were evidences of very intense uterine phlebitis, to which were added collections of purulent matter in the psoas muscles, which were softened in substance. There were no other alterations, except some purulent depositions in the iliacus internus, and also in the triceps femoris.

Case 3. Eliz. Hain, aged 23 years, was seized with puerperal fever on the fourth day after her accouchement, and numerous leeches were applied, which seemed to conquer the malady quickly; but on the fourteenth day after delivery, when she was in full convalescence, an intense pain took place in the hypogastric region, without any ostensible cause. Next day there was violent fever, vomiting, deep-seated pain in the hypogastrium, and in the left iliac fossa. Forty leeches were applied, and produced a temporary relief. Then succeeded a series of seven symptoms, which left little doubt as to the nature of the malady: delirium, agitation, small quick pulse, fetid diarrhœa, deep-seated pain in the hypogastrium, and ultimately in the thighs and one arm, but without any swelling, redness, or other external phenomenon.

On dissection, the deep-seated muscles of both legs were infiltrated with thick pus, the muscular fibres in contact with the pus were softened, and there were several isolated purulent depots, the size of an almond, in the substance of the muscles of the leg, especially in the tibialis anticus. There was a purulent depot about the middle of the thigh. The right fore-arm presented similar appearances. There was some pus in the cavity of the left knee. The veins of the uterus were filled with pus, and their internal surface discolored and rough. The left ovarium was transformed into a purulent depot, adhered to the rectum, and opened into that gut by a small orifice. The peritoneum was natural, and all other parts unaffected.

Case 4. B. ——, aged 23 years, of vigorous constitution, experienced soon after delivery the symptoms of uterine phlebitis, soon followed by those grave phenomena which result from pus being carried into the torrent of circulation. Œdematous swellings in different parts of the limbs appeared, and the patient died.

On dissection, numerous purulent depots were found in the muscles of both legs, thighs, and arms. The cavity of the left knee also contained much pus of a good quality, without any appreciable affection of the synovial membrane. Most of the uterine veins were filled with purulent matter, and the parietes of the womb were thickened and unequal. Several of the larger lymphatics were gorged with the same fluid.

The author (who no doubt speaks the sentiments of M. Desormeaux) conceives that the phenomena above-mentioned, namely, the purulent depots in various and distant parts of the body, cannot be attributed to common inflammation.

"But if," says he, "there exists in the constitution a general cause, manifest, and in some measure palpable, capable of explaining these various effects; if we can detect pus ready formed in the uterine vessels, whence we see it carried by the blood to all parts of the body; if characteristic symptoms announce, in an almost certain manner, this importation of pus into the bosom of all the organs, and constantly precede the abscesses in question, have we not a thousand reasons for believing that these purulent depots in the lungs, liver, brain, &c. are not the effects of common inflammation, but the result of a peculiar operation, or simple deposition of matter in the midst of the muscular tissues?"

The author anticipates an objection to the muscles of the extremities being affected, in preference to those viscera where the venous circulation flows in great abundance, as the lungs, the liver, &c. but he appeals to certain experiments of M. Cruveilheir, who injected mercury into the veins of animals, and often found the foreign matter deposited in the middle of the muscles. He acknowledges that it is very difficult to account for this caprice, as it were, of the disease, in respect to the direction which it takes to one or other organ. But passing over many cases and arguments, we come to an important table, exhibiting the results of 390 post-mortem examinations of puerperal fever, with the various appearances on dissection.

Of these 222 cases, there were 193 cases of peritonitis—197 do. exhibiting disease of the uterus and appendages.*

The alterations of the uterus and of the peritoneum, were variously combined in 165 cases. They were isolated in 57 instances, viz. there was peritonitis alone in 28 cases, uterine affection alone in 29 cases. In respect to alterations in the uterus, there were 79 cases of simple metritis, 29 of superficial mollescence, 20 of deep-seated mollescence, 58 of ovarian inflammation, 4 of ovarian abscess. The following is a tabular and comparative view of alterations in the vessels. In 90 cases, there was pus in the veins; in 32, pus in the lymphatics; in 5 cases, pus in the thoracic duct; in 9 instances, there was inflammation and suppuration in the lumbar and other lymphatic glands.

Suppuration of the veins was accompanied by that of the uterus in 32 cases; by mollescence or putrescency of the uterus, in 11 cases; by metritis and mollescence united, in 5 cases; by peritonitis purely, in 34 cases; and it (suppuration of the veins) was isolated, or unaccompanied by any other affection, in 8 cases.

Suppuration of the lymphatic vessels existed, in conjunction with that of the veins, in 20 cases; with that of the uterus, in 13 cases; with mollescence alone of the womb, in 6 cases; with simple peritonitis, in 3 cases; without any other lesion, in 2 cases.

Inflammation of the ovaries was accompanied by simple peritonitis, in 29 cases; with various lesions of the uterus, in 27 cases; with simple metritis, in 8 cases; with mollescence of the uterus, in

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* "The reason why the aggregate of the two classes of affections exceeds in number the total of dissection, is, that in many cases there was a combination of peritonitis and metritis.—Ed."

7 cases; with suppuration of the vessels, in 12 cases; and with all of the above alterations combined, in 16 cases.

From the above tabular facts, it results, that in fatal puerperal fever, the uterus is rather more frequently affected than the peritoneum—that the two affections are, in a majority of cases, combined—but they are sometimes entirely isolated. The table also presents this remarkable fact, that in 134 cases, the venous or lymphatic vessels of the uterus contained pus. Whether this pus was formed in the vessels themselves, or carried thither by absorption from other parts, is a secondary consideration—for the danger is the same, in both cases, of a general contamination of the circulating fluid. That the pus is sometimes, at least, formed in the vessels themselves, appears to be proved by the fact, that in eight cases where pus was found in the veins, there was no other lesion whatever. This fact, the author thinks, may throw a doubt on the opinion that the pus is ever absorbed into the veins from other parts. The table in question may help to explain the great danger or mortality in puerperal fever; it may also tend to throw some doubt on the propriety of the term, puerperal peritonitis, or puerperal metritis, which has been so often applied to the disease. The designation "puerperal fever," is freer from objection than either of the above terms: it prejudges nothing.—*Medico-Chirurg. Rev. July*, 1830.

MATERIA MEDICA.

19. *Mode of Preparation of the Sirup of the Shoots of Asparagus.* (*Journal de Chimie Médicale, July*, 1830.)—Our readers are aware that the asparaus has been recommended by M. Broussais as possessing the property of calming the action of the hear without irritating the stomach; but no formula was given for the preparation of the sirup, the form in which it is administered when the recent plant cannot be obtained. M. A. Chevallier has engaged in researches on the best mode of preparing this sirup, and reported the following to the Society of Medicine and Chemistry of Paris. He took a certain quantity of the young shoots of asparagus, separated the white from the green part, reduced the latter to a pulp in a marble mortar, expressed the juice, let it settle, and decanted it. Two pounds of the decanted juice was put into a dish, and four pounds of white sugar added, and the whole placed in a water bath; this was afterwards heated until the sirup began to boil, the operation was then stopped, the pellicle which formed on the surface of the sirup removed, and the sirup passed through a strainer.

The sirup, thus prepared, had the perfect taste of the asparagus, and was not changed after it had been made two months. By trials made upon himself, in doses of from one to four ounces, M. C. says that he has shown, that the sirup is not a very powerful sedative, but it is an excellent diuretic.

Wishing to know if the sirup prepared from the whole shoot (both the white and green parts) would possess the same taste and properties as that made from the green portion solely, M. C. made a sirup of the whole shoot, in the manner just described, and he found this sirup possessed the same properties as the other.

It having been said, that the sirup of asparagus did not preserve its properties for a very long time, M. C. points out the following means by which it may be prepared at all times.

Take the green of the asparagus, and hang it up to dry in the open air, in a garret. Ten parts of this dried asparagus are to be taken, and ninety parts of boiling water. The asparagus is to be contused, afterwards placed in a water bath, and boiling water poured below; the bath is then to be shut, and the asparagus left in for twelve hours. The liquid which the asparagus has absorbed, is then to be pressed out, and to ten parts of this liquid, twenty parts of white sugar are added; a sirup is made by submitting it at first to a moderate temperature, and gradually increasing it till the sirup begins to boil. It is then taken from the fire, and strained. This sirup has the same odor and taste as that prepared with the fresh plant. It is a good diuretic.—*American Journal of Med. Sciences, for Nov.* 1830.

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20. *Aromatic, or Spiced Sirup of Rhubarb. By* Elias Durand.—Dr. Coxe, in the last edition (1830) of his American Dispensatory, has very judiciously observed, that this sirup, prepared agreeably to the Pharmacopœia of the United States, possesses a defect which may be easily obviated, without changing the proportions of its ingredients. In fact, evaporating to one half an infusion of rhubarb and aromatic substances, is quite inconsistent with the present improvements in pharmaceutical manipulation; it is too well known that these articles lose by ebullition a great portion of their active properties.

This fault, as well as many others which have crept in that national work, has not escaped the attention of our practical pharmaceutists. From the first time I had to compound the aromatic sirup of rhubarb, this defect struck me, and I amended the formula by the following, which undoubtedly affords a preparation very superior to the other, both in nicety and activity. I first prepare an alcoholic tincture with the rhubarb and the aromatic ingredients, and then form my sirup by the addition of a relative quantity of simple sirup.

Aromatic Tincture of Rhubarb.

℞—Rhubarb of good quality	parts v.
Cloves and cinnamon, of each	parts iv.
Nutmegs	part i.
Alcohol of 20°	parts lxiv.

Bruise the ingredients, and macerate them for about a week.

Aromatic Sirup of Rhubarb.

℞—Aromatic tincture of rhubarb	part i.
Simple sirup of 35°	parts iii.

Mix well. This sirup marks 28° on Baume's pèse sirup.—*Journal of the Philadelphia College of Pharmacy, for October*, 1830.

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21. *Formula for a Sirup of Gum Tragacanth.*—M. Emile Mouchon, fils, Pharmacien at Lyons, has offered a recipe for the preparation of a sirup of gum tragacanth, in the Journal de Pharmacie for September, 1829.

He directs—Gum tragacanth, pure, 3 oz. 5 gros. 24 grains.
Pure river water, 9 lbs.

The gum is to be deprived of all impurities, reduced to powder, and subjected to the action of cold water, for forty-eight hours, at a temperature of 20 or 25 degrees of Centigrade thermometer. The solution to be facilitated by frequently agitating the mixture with a large wooden spatula.

He then adds simple sirup at 30°, discolored by animal charcoal, and strained, 24 lbs.

The solution being perfectly homogeneous in all its parts, the half of the sirup, nearly cold, is to be incorporated in small portions, and with the greatest care; the mixture to be passed through linen, with slight expression, and the remainder of the sirup then added, constantly stirring it. The sirup loses five degrees of density by the addition of the gum, although the consistence of the mixture is greater than the sirup. These proportions give four grains of gum tragacanth for one ounce of sirup, and which, according to Bucholz, represents, if not in quantity, at least in consistence, one hundred grains of gum arabic.—*Journal of the Philadelphia College of Pharmacy, for July*, 1830.

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22. *Dover's Powders.*—The following formula for this ancient and celebrated powder, is from the French Codex.

℞.—Sulphate of Potassa	each 4 grammes, or 61 $\frac{76}{100}$ troy grains
Nitrate of Potassa	
Ipecacuanha in powder	each 1 gramme, or 15 $\frac{44}{100}$ troy grains
Opium purified	
Liquorice in powder	

It is recommended in the pharmacopœia of Swediaur, to melt the nitrate and sulphate of potash together in a crucible, and then unite them to the other powders. The dose is directed to be twelve grains.—*Journal of the Philadelphia College of Pharmacy, October*, 1830.

CHEMISTRY.

23. *Test of Morphium and its Acetate.*—M. Serullas states, that when iodic acid is added to a fluid containing morphium or its acetate, the peculiar odor and color of iodine is instantly manifested; and this is the case when the menstruum is large, and the quantity of morphium as small as one tenth of a grain. M. S. further states, that the quinine, cinchonine, veratrine, strychnine, brucine, or narcotine, have no action upon the iodic acid.

After very judiciously observing, that the indications furnished by re-agents never are sufficient to enable us to decide positively on the presence of bodies in medico-legal researches, except in a few cases, but that they are auxiliary means which should always be had recourse to, as furnishing lights which may lead us to more positive research, he says—I point out, then, the iodic acid, and the acid iodate of potash, as extremely sensible re-agents to detect the presence of morphium, or its acetate, not only when by itself, but also in mixture with other vegetable alkalies, the latter having no action upon the iodic acid.—*Journ. Général, May,* 1830.

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24. *Salicine, or active principle of Willow Bark.* (*Journal de Chimie Medicale, &c. for June,* 1830.)—We noticed, in the number of our Journal for April, 1830, the discovery of a principle in willow bark, by M. Leroux, supposed by him to be alkaline. MM. Gay Lussac and Magendie were appointed by the Royal Academy of Sciences to examine the nature of this product. They satisfied both themselves and the discoverer, that so far from being alkaline, salicine is decomposed by acids, and the latter destroy its property of crystallization. It is evident, therefore, that sulphate of salicine could not exist. Salicine is destitute of azote: when pure, it is in white crystals, very delicate, and of a pearly aspect, and very soluble in water and alcohol, but not in ether. Its taste is intensely bitter, and its aroma resembles that of the willow bark.

Process. To procure the salicine, boil three pints of the willow bark, (salix helix,) dried and reduced to powder, in fifteen pounds of water, charged with four ounces of carbonate of potash. Filter and add to it, cold, two pounds of liquid subacetate of lead. Filter again, treat it with sulphuric acid, and pass through it a current of sulphuretted hydrogen, to separate all the lead. Saturate the excess of acid by carbonate of lime, filter again, concentrate the liquor, and neutralize it by the addition of dilute sulphuric acid. Decolorize it by animal charcoal, filter while boiling, crystallize twice, and dry it, protected from the light. This operation, which M. Leroux will simplify, in all probability, furnished about one ounce of salicine from three pounds of bark. This remedy has been employed as a substitute for sulph. quinia, in the cure of intermittent fever, and has been found to answer exceedingly well. MM. Magendie, Miquel, Husson, Bally, &c. have exhibited it, and all agree, that from twenty-four to thirty grains are sufficient to arrest the paroxysm of intermittent fever completely—which proves it to be nearly if not quite equal to the sulphate of quinia.—*Journal Philad. College of Pharmacy.*

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25. ***Whether the putrefaction of Animal Matter is attended with an elevation of temperature.*** By Dr. John Davy.—It seems proved, that those parts which undergo rapid change, as the fibrin of blood, brain, muscular fibre, and the parenchymatous substance of glandular structures, give off a good deal of heat in being converted from the solid into the liquid form; and, as the other parts undergo a similar change, and are ultimately reduced to a liquid or pultaceous state, and, as in most of them there is some elevation of temperature, may it not be fairly inferred, that the apparently inferior degree of heat generated by them is merely owing to the slowness of the change; and, accordingly, whatever accelerates the progress of decomposition, seems to promote increase of temperature. Minute mechanical division has this effect in a remarkable manner, as has been witnessed in the instance of the fibrin of the blood, and that of muscular fibre; and the effect is probably owing to the very extensive surface exposed to the action of atmospheric air. The presence of maggots, too, has the same effect very strikingly, and I believe in the same way. They tend to separate the parts, to agitate the surface, and to introduce air beneath the surface. It is curious to watch the progress of these animals in their growth, and still more so in their operations. When their food is very nutritious, the almost microscopic ova in forty-six hours are converted into large maggots. When they have nearly attained their full size, they feed with extraordinary voracity, as if aware that their lives depended upon their activity. The whole of a numerous brood, side by side, erect, with one extremity in the ammoniacal pultaceous mass, pump up nourishment, and with the other and longer extremity in the atmosphere, the orifice of its canal dilated, seem to pump down air; and thus, by the difference of the specific gravities of the two fluids, the perpendicular position of the larvæ is maintained; and probably by the action of the one or the other, a compound is formed fit for assimilation, and for forming a part of the new animal, and at the same time the putrefactive process is accelerated. It appeared probable at first view, that the larvæ themselves might generate and possess a comparatively high temperature; but, on the whole, the observations which I have made to endeavor to determine this point, are not in favor of the notion. When the larvæ are distended with putrid matter, exhaling ammonia, and rapidly undergoing change, then their temperature, as might be expected, is always above that of the atmosphere; but when they are free from putrid matter, internally and externally, although collected together in large number in a small space, as in a phial, a delicate thermometer placed in the midst of them did not rise, did not indi-

cate the generation of any sensible degree of heat; and, in conformity with this, I find that maggots, by themselves, vitiate air very slowly; indeed, I believe that their dead bodies vitiate it more rapidly than their living. The changes in the dead bodies, in putrefying and becoming semifluid, accompanied by the formation of carbonic acid and ammonia, are more rapid than the changes of their living bodies, in passing from the larva through the chrysalis state to that of the imago, or in becoming as it were solid, which change seems to be accompanied chiefly by the exhalation of water, and the formation of a very little carbonic acid gas. Mixture, probably, is another circumstance which favors and accelerates the putrefactive process, and the evolution of heat. The two circumstances already adduced may partly act in this manner, as well as by exposing greater surface to the air. In the saccharine or vinous fermentation, the effect of mixture is well marked. So long as the sweet vegetable juice is retained in the tubes or cells of the plant or fruit, it resists change; but the instant the tubes are crushed, and the cells broken down, and the different parts mixed, the fermentation, under favorable circumstances, commences. I suspect something similar to this happens with animal matter. It is known to every one, that bruised meat putrefies rapidly. An egg, carefully put by, freely exposed to the atmosphere, without any covering over its shell, will remain free from putridity for months; and in a dry atmosphere, it will lose the greater proportion of the water which it contains, and on breaking it, the yolk and white will be found dry and contracted. But if the yolk and white are intimately mixed by violent agitation, then, I believe, the mixture, even in the shell, will soon become putrid. Certain I am, that when freely exposed to the air, out of the shell, the yolk being merely immersed in the white, they do not putrefy; though, if the two are mixed, in a short time they undergo a change—they become highly putrid, and the temperature of the mixture rises several degrees.

MEDICAL JURISPRUDENCE.

26. *On Murder, by Poisoning with the Mineral Acids.* (*Archives Générales de Médecine*,. *November*, 1829—*Bulletins des Sciences Médicales*, *Janvier*, 1830.)—Although voluntary and accidental poisoning with the mineral acids is exceedingly common, few instances are on record where the murderer has had recourse to these poisons, because their intense acid taste, and instantaneous corrosive action, render it extremely difficult, and, at first view, one would suppose impossible, to administer them secretly. The two following judicial cases are therefore of much interest, on account of their rarity.

The first is an instance of an attempt to murder by administering nitric acid, which came lately before the Court of Assizes at Paris.

A man named Groubel, who lived on very bad terms with his wife, filled her excessively drunk one evening, at the village of Boulogne, near Paris. At half past eight the same evening, (October,) they were seen together, on their way towards the Bois de Boulogne; and next morning the dead body of the woman was found on the road side. MM. Ollivier and Chevallier were requested by the authorities to examine it.

Her dress was disordered. Her cap and an under waistcoat were corroded and stained, and particularly the collar and sleeves of the latter. The stains were yellow. Three similar stains were found on her petticoat. The face was pale, but much discolored, of a lemon-yellow tint, particularly on the right side, by a fluid which issued from the angles of the mouth. Several locks of hair were similarly discolored. At the left side of the neck, towards the back, and corresponding with the deepest stain on the waistcoat, there was a grayish superficial eschar, surrounded by some reddish excoriations. On various parts of the forehead, on the right side of the nose, behind the right ear, and on the right side of the neck, near the front, there were several excoriations, exactly such as those made by finger-nails; and two on the neck were accompanied with slight ecchymosis. Several ecchymosed spots were also found on the back of the head, on the back of the right shoulder, and on the outer part of the right fore-arm. On the fore part of the same fore-arm, three grayish, superficial eschars were seen, exactly like that on the neck. The hands were not at all stained. The whole inside of the mouth was of a deep lemon-yellow color; the fine skin of the lips excoriated; that of the tongue shrivelled. The pharynx was full of bloody mucus, and also yellow, which color farther affected the upper quarter of the gullet, but became less and less distinct downwards. The lower part of the gullet, and the whole stomach, were healthy, and the latter was filled with half-digested food, and much wine. The larynx, trachea, and bronchi, were healthy, their mucous membrane white; but both lungs had a blackish or violet color; the left was scarcely crepitant at its upper portion, and very hard, red, and hepatized at its lower part, with tubercles in the centre of the hepatization, and it yielded a great quantity of black fluid blood when cut into; the right was less strongly hepatized, but equally full of fluid blood. The heart was soft and flaccid, and its cavities contained much fluid dark blood. The brain was much injected, and the veins gorged.

The stains on the clothes were analyzed in the following manner. Litmus paper was strongly reddened by them. When a portion of the stained cloth was immersed in distilled water, the water became acid, and when this was neutralized with bicarbonate of potass, and concentrated, a piece of paper immersed in the solution, and dried, burnt with a sparkling redness like match-paper. Another portion of the liquid evaporated to dryness, and, treated with a little concentrated sulphuric acid, gave out fumes of nitric acid. Another portion evaporated to dryness, and projected on burning charcoal, caused deflagration. The stains of the skin and hair were subjected to the same process, and gave the same results. A portion of the yellow stain, when treated with caustic potass, became reddish yellow. These experiments left no doubt that the stains on the body and clothes were caused by nitric acid. The contents of the stomach were carefully analyzed in like manner, but no nitric acid could be detected in them.

The prisoner being arrested about the time when the body was examined, the medical inspectors requested to be allowed to examine him; upon which several yellow stains were found on his coat, trowsers, and hands. These stains were analyzed in the same manner with those found on the woman's clothes and body, and nitric acid was detected in them.

The opinion of MM. Ollivier and Chevallier was, that the woman did not poison herself,—that an attempt had been made to make her swallow nitric acid, which, however, she had rejected before it reached the stomach,—that she did not die of poison, and that in all probability she had been suffocated by the hands applied on the neck, and over the mouth and nose. The want of stains on the woman's hands, with the abundance of them on other parts of the body, justified the conclusion, that she did not take the poison herself. The entire state of the alimentary canal, they conceive, also bears out the inference, that she did not die of the poison. But here it appears to us, that more care should have been taken to determine, that the glottis did not suffer, so as to produce death by suffocation. That she was smothered or choked, they consider is rendered highly probable by the scratches round the mouth, and on the neck, by the gorged state of the lungs, and black fluid condition of the blood. Lastly, they give their opinion, that the prisoner was the person who administered the poison, and subsequently choked her; and they appeal, in proof of this, to the stains on his clothes, but more particularly, on the palms of his hands.

The whole case is an exceedingly instructive example of the advantage to be derived in obscure crimes from a thorough medico-legal investigation by competent persons. In support of the doubts we have expressed, whether the woman might not have died of suffocation, from the acid attacking the glottis, we may mention, that M. Alibert, who was examined in the case, stated he had seen several instances of this kind of death, where the acid had not penetrated beyond the back of the throat. M. Ollivier seems to doubt the facts here stated, but without reason. Many years ago, an opinion in favor of death by poison was given by one of the Prussian colleges, in the case of a child, where the poison did not reach the stomach, but manifestly produced violent inflammation of the rima glottidis, epiglottis, and larynx.*

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* Augustin's Repertorium, i. ii. 15.

The other case, is an attempt to murder, by administering sulphuric acid, which was the subject of trial lately at Strasbourg. An hospital servant of the military hospital of that town, wishing to get rid of his wife, administered a potion, with a strong dose of tartar emetic, and subsequently persuaded her to take several spoonfuls of sulphuric acid, under pretence of relieving the vomiting. Violent symptoms were consequently produced, and a judicial inquiry was therefore set on foot. Sulphuric acid was found in a sirup, of which the man had administered a part, and, besides, the administration was proved by an acid-stain on the bed-cover, and the corrosion of an iron spoon, in which it had been given. The woman, who eventually recovered, gave very gentle evidence against her husband. After a trial which lasted seven hours, the jury found the man guilty, by a majority of seven to five, and the judges uniting with the majority, the prisoner was condemned to death.

While on this subject, we may mention, that some important observations have lately been made by Dr. O'Shaughnessey, a graduate of this University, on the tests for nitric acid. He finds that Liebig's test for this acid, in a free or combined state, which has been introduced into almost every chemical work of note published since his announcement of it, is so open to fallacy, that no reliance can be placed on it in any medico-legal inquiry. Sulphuric acid, and muriatic acid, in somewhat larger proportion to the blue solution of indigo that is required in the instance of nitric acid, will effect a complete decolorization of the test; and we have since been informed by him, that muriate of iron, and even muriate of soda, possess the same property He likewise makes some objections to the use of the test derived from the deflagration of combustible substances with the neutralized acid, and even to that derived from the action of the acid on certain metals, such as tin or copper. As to the latter test, we do not exactly see that it is liable either to fallacy or to any difficulty in the way of applying it; but the former property, as he remarks, certainly does not distinguish nitric acid from chloric acid; and, on the whole, he is probably correct in supposing that any of the three properties now to be mentioned is more characteristic—the orange color struck by the acid with morphia, the formation of fulminating silver, and the crystallization of nitrate of urea in a concentrated solution of urea. Of these, we should consider the last as by far the most characteristic and elegant test. In compound organic mixtures, he recommends the following method of analysis for detecting small proportions of nitric acid: First filter the mixture, water being added if necessary; then throw down the gelatin, if there is reason to suppose any present, by means of tannin; next, neutralize with carbonate of potass, and boil with animal charcoal; filter again, and gently evaporate to dryness. Of the remaining mass, introduce one drachm into a small retort, of the capacity of two ounces, add an equal weight of concentrated sulphuric acid, and apply a distilling heat—the product being condensed in a small receiver, by means of a few drops of distilled water. With the fluid thus procured, try any or all of the three tests mentioned above, the colorizing of morphia, the formation of fulminating silver, and crystallization of nitrate of urea.—*Ed. Med. & Surg. Journal.*

Poisoning with Empyreumatic Oil. [*Journal Universel, Novembre,* 1829.]—In the 21st volume of the Dictionnaire des Sciénces Médicales, p. 605, the late Professor Chaussier has related a case of poisoning with the oil of Dippel, or rectified empyreumatic oil of hartshorn; and states, that on the patient taking a spoonful by mistake, death ensued instantly, and no morbid appearance could be discovered in the dead body. Another case of poisoning with the same substance, is related by M. Duret in the Journal quoted above, but in this instance the effects were very different. The subject was a widow, thirty years old, who after unsuccessfully trying to procure arsenic, swallowed an ounce and a half of the empyreumatic oil of commerce, from which the oil of Dippel is procured by rectification. No one witnessed the symptoms which resulted; but it appears she vomited copiously, had drunk a good deal of water, but finding the effects of the poison not so speedy or so supportable as she desired, had put an end to her sufferings by jumping into a well. The dead body exhaled the peculiar fetid odor of the oil. The lips were pale, as well as the lining membrane of the palate and tongue, which was hard, shrivelled, and on the edge thin and fringed. The velum, pharynx, and gullet, presented the same color and shrivelling. The stomach was full of liquid. Externally, it had a diffuse rose-red tint, crossed by numerous distended black veins, which here and there had burst, and caused small circumscribed patches of extravasation. The liquid contained in the stomach consisted of remains of food, water, a considerable quantity of the poison, and some extravasated blood. The villous coat had a punctated redness, was unnaturally thick, and presented very prominent rugæ, but no appearance of erosion. The intestines were also inflamed, but to a less degree than the stomach. This substance, therefore, appears to have acted as an acrid poison; while in the case mentioned by Chaussier, it seems to have acted like one of the most powerful narcotics, such as the empyreumatic or essential oil of tobacco.—*Ibid.*

Poisoning with Cantharides Powder. [*Annales de la Médicine Physiologique, Octobre,* 1829.]—Although this species of poisoning is common, few accurate cases have been recorded. The following, therefore, possesses considerable interest.—M. Rouquayroul, the relater of it, was called to visit a shoemaker, who, amidst apparently acute suffering, declared he had vomited his entrails, and pointed them out to his physician. He had an acute sense of burning in the mouth, throat, and stomach, pains in the region of the kidneys and bladder, and constant desire and inability to pass urine. The mouth was all excoriated, and ptyalism had commenced; the tongue was tremulous, the pulse frequent and contracted, and there was some priapism. The vomited matter contained fragments of mucous membrane, and particles of powder of cantharides. Three hours had elapsed since the patient had swallowed the poison, the dose of which was unknown. Half a pound of olive oil was immediately administered, and then twenty grains of ipecacuan, which were followed by free vomiting; and a large quantity of cantharides powder was mingled with the matter discharged. Soon afterwards, two pounds more of olive oil were taken, and in half an hour two ounces of castor oil; after which he had copious stools, containing cantharides in large quantity. The same treatment was in no long time again repeated, with similar effect. In the evening there was convulsive starting of the arms and legs, continual priapism, bloody urine, febrile heat of the belly, a quick contracted pulse, and *subsultus tendinum*. The olive oil was repeated by the mouth, and also administered by way of injection; but the pains in the throat, stomach, kidneys, and bladder, continued without abatement, and therefore ten leeches were applied to the throat, twenty to the epigastrium, and as many to the perinæum; and when the leeches had all dropped off, the man was placed in the warm bath, where he remained three quarters of an hour. Next day the urine continued bloody, the eyelids were closed, the patient was in a state of constant agitation, and was kept in bed only by constraint; but the pulse was more full, and the pain chiefly complained of was in the region of the bladder. Thirty leeches were accordingly applied to the hypogastrium, emollient injections were given, and the warm bath was repeated. In the evening the urine was less bloody, the pains abated, and the vomiting intermitted for some time. At length *he vomited, with great pain and the discharge of some blood, the entire mucous membrane of the gullet.* It was torn into strips at its two ends, and an inch and a half of its central portion was uninjured. The outer surface exhibited capillary vessels running longitudinally, with plaits or wrinkles in the same direction; and on its inner surface there were still some fragments of the cantharides.—Next day (the third) deglutition was extremely painful; but the other pains had abated, and the urine was less bloody. On the fourth day, the tongue was tremulous, and red on some points; the ptyalism continued, and the act of swallowing was attended with extreme pain; but the urine was natural, the priapism had ceased, there was no longer any pain in passing urine, and the patient felt so well and cheerful that he wished to rise. Milk, beef tea, sweet gargles, emollient injections, and the warm bath, were given. On the fifth day, there was no longer any fever or heat in the mouth. The mucous crypts secreted a fluid so viscous, that it hung from the mouth in strings a yard and more in length. On the eleventh day, there was pain in the gullet exciting cough, pricking pain in the rectum, and a little diarrhœa. On the thirteenth day, the tongue was less red, but still tremulous; the patient could swallow solid food easily, but still felt difficulty in swallowing liquids; the ulcers of the mouth were healed, from which it was inferred that those of the gullet were healed also. After this, M. Rouquayroul visited him occasionally, and found all his functions wonderfully perfect.

It may be thought that the supposed mucous membrane of the gullet discharged in this case, was nothing more than a pseudo-membrane, the result of inflammation of the mucous coat; and such, undoubtedly, is the nature of the membraneous matter discharged in many forms of irritant poisoning, and often hastily considered to be fragments of the inner coat of the alimentary canal. But in the present instance, the relater maintains that its nature could not be mistaken. In particular, it presented many regularly ramified vessels in its substance; and one of these was so large, that he succeeded in procuring blood from it by pricking it with the point of a lancet.

Oil, which was profusely used in this case, is not considered a proper article in the treatment of poisoning with cantharides. The experiments of Pallas, confirmed by those of Orfila, show that it is, on the contrary, injurious, by dissolving the active principle of the poison.—*Ibid.*

On the Poisonous Effects of certain spoiled Articles of Food. [*Archives Générales de Médecine, Fevrier*, 1830.]—It is well known that certain articles of food have been frequently observed on the Continent to acquire poisonous qualities of a peculiar kind, and in a way which chemists and physicians have not hitherto been able to explain very satisfactorily. Among these articles, the most frequent are a peculiar variety of sausage, and a particular kind of cheese, used in Germany; but both in France and Germany, bacon and ham have been also several times found to acquire poisonous qualities analogous to those which characterize the sausage poison and cheese poison. A very elaborate inquiry into an accident supposed to have arisen from spoiled ham, has just been published by M. Ollivier in the Archives Générales de Médecine. His investigations set completely at rest the common notion that such accidents arise from the accidental impregnation of the meat with metallic poisons; but he has not succeeded in discovering the real cause.

In the instance which gave rise to his investigation, the master of a family purchased a ham pie at a pastry-cook's in Paris, and the whole family ate the meat of the pie the same day, and the crust on the following day. Three hours after dinner, the master of the house was seized with general uneasiness, followed by cold sweats, shivering, violent pain in the stomach, and frequent vomiting; then with burning thirst, extreme tenderness of the belly, so that the weight of the bed-clothes could scarcely be borne, profuse purging, and colic of extreme violence. His daughter, twenty-seven years of age, and a child nine years old, were similarly attacked. A physician who was called to their assistance soon after they were taken ill, drew up a minute report of the symptoms in each of his patients, and declared that they had a violent inflammation of the stomach, which he was inclined to ascribe to natural verdigris, or the carbonate of copper, having been communicated by the pastry-cook's moulds. In a few days all the three individuals recovered, under an antiphlogistic treatment. About the same period, several accidents of the like nature occurred among the customers of this pastry-cook; and in consequence a judicial investigation was ordered. The shop being properly inspected, it was found that every operation was conducted with a due attention to cleanliness. MM. Ollivier and Barruel were appointed to analyze the remains of the meat which produced the cases first mentioned, as well as the alvine discharges of the child.

The alvine discharges had a leek-green color, and were not fetid, but of a sour smell. Sulphuretted hydrogen did not induce any change in color, neither was any change of color produced by the same reagent after the fluid was filtered. The remains of the pie had become mouldy. The meat and paste were separately examined. The contact of sulphuretted hydrogen did not produce any change of color in either. When they were incinerated in a crucible, and the residue treated with diluted nitric acid, the filtered liquid, on being neutralized with ammonia, did not give any precipitate with ferrocyanate of potass or with sulphuretted hydrogen, and did not become blue with ammonia. Another portion of the remains of the pie was treated with alcohol and a few drops of acetic acid, and the alcoholic solutions were evaporated to the volume of half a drachm. The residue was agitated with four times its volume of distilled water, filtered and evaporated, and dissolved again in water. This solution was not affected by sulphuretted hydrogen or by nitric acid. These experiments furnish ample proof that the pie did not contain a trace of arsenic, copper, antimony, or lead. The only conclusion, therefore, which M. Ollivier conceived it possible to draw, was, that the ham had in some way or another acquired the poisonous properties sometimes remarked in German sausages, cheese, and ham.—*Ibid.*

Poisoning with Bismuth. [*Bulletins des Sciences Médicales, Fevrier*, 1830.]—The sub-nitrate of bismuth, or magistery of bismuth, the common oxide of bismuth of the pharmacopœia, has been long supposed to be a poison, and was fully proved to be so by the experiments of Orfila. The following case, recently extracted by M. Ferussac in his Journal from the Heidelberg Klinische Annalen, is the only instance with which we are acquainted of fatal poisoning from this salt, and fully establishes the propriety of arranging it with the active irritants. A man who had been in the habit of receiving from his surgeon chalk and magnesia for pyrosis, received the sub-nitrate of bismuth by mistake from the village barber, who kept an old medicine chest, and took about two drachms of it suspended in water, along with a little cream of tartar. He immediately felt burning pain in the throat, violent vomiting and purging soon followed, and next day Dr. Kerner, of Weinsperg, who relates the case, was called to his assistance. He found him affected with dreadful nausea, frequent brown vomiting, watery purging, an intermitting pulse, general coldness, and spasmodic contractions of the muscles, particularly of the legs. The back of the throat and uvula were inflamed; there was a burning pain there, with difficulty in swallowing; the membrane of the nose was dry, the tongue covered with a dirty yellow crust, and the patient complained of unquenchable thirst and a constant nauseous taste.

The vomiting and diarrhœa having already lasted eleven hours, Dr. Kerner concluded that the poison was already all expelled, and confined his attention, therefore, to the treatment of the consecutive effects. Emulsive mixtures were administered with a little laudanum, and the warm bath was then employed with some advantage. The spasms abated, the pulse became firmer, and the patient passed the subsequent night tolerably. On the morning of the third day, however, the pain in the throat and difficulty in swallowing became much worse; the patient complained of constant nausea, metallic taste, and hiccup; and the hands and face began to swell. Leeches were applied to the neck, with some relief to the throat. But in the afternoon the skin became hot, the sight dim, the breathing laborious, and it was then discovered that no urine had been discharged from the time the poison was swallowed. On the fourth day, he complained much of tension, and extreme dryness of the palms and soles; the lower belly began to swell; and the patient was extremely weak and despondent. On the fifth day, there was more fever, some tenderness of the belly, and increased hiccup, with augmentation of the saliva, which was brown, and of a metallic taste. He was this day bled from the feet, and cataplasms were applied to the belly. The blood was florid red and slightly buffy. On the sixth, there had still been no urine passed, and none was secreted. Some symptoms of delirium, with tremors, made their appearance. On the seventh, the lower belly was enormously distended, the stools were extremely fetid, the tongue was so swelled that the throat could not be seen, the thirst and heat in the throat were excessive, and the man remarked constantly a smell like that of the sea shore. On the eighth, the urine for the first time began to flow, and was very pale. The fever went on increasing, and became attended with strong delirium; the respiration was more and more embarrassed; and the patient, in reply to questions, said he was quite well. In this state he lingered till the night of the ninth day, when he expired.

On inspection of the body, the alimentary canal was found affected along its whole course from the back of the mouth to the rectum, and in this long tract there were but few points quite healthy. The tonsils, the uvula, the back of the throat, the epiglottis, and the inner membrane of the larynx, were gangrenous. The gullet was livid, but not inflamed; the stomach was strongly inflamed, especially in its great sac, the mucous coat being as it were macerated, and detachable with extreme facility from the subjacent coat, which was covered with purple red papulæ. The whole intestinal canal was much distended by gases, more or less inflamed, and here and there gangrenous. The gangrene was particularly well marked at the rectum. The whole intestinal mucous membrane was very easily detached. The lower end of the spinal cord and inner surface of the heart, were also inflamed. The lungs were healthy, but the windpipe checkered with blackish points. The kidneys and brain were in the natural state.—*Edin. Medical and Surgical Journal.*

MEDICAL STATISTICS.

31. *Extracts from the Parisian Bills of Mortality for* 1828 (*Annales d'Hygiéne Publique et de Médecine-Légale. Janvier*, 1830.)—The deaths in Paris in 1828 were 22,299, being 1058 above those of the preceding year. Of this number, 11,430 were males, 12859 females.

The disease which has been the most prolific source of mortality, is *phthisis pulmonalis;* 2659 persons, of whom 1133 were males, and 1526 females, perished from this scourge of humanity. The time of life within which these deaths occurred, was from the fifteenth to the forty-fifth year in females, and from the twentieth to the thirty-fifth in males.—With phthisis may be arranged *Chronic Pulmonary Catarrh*, a disease nearly as prevalent after middle age, as phthisis before it; 1539 persons died of it, of whom 688 were males, and 851 females.—*Gastritis* was the occasion of 2046 deaths, 922 males, and 1024 females. The prevalent age was childhood. The same may be said of *Enteritis*, which proved fatal to 2230, of whom 1108 were males, and 1122 females.—*Peritonitis* caused 141 deaths among males, and 407 among females: the prevalent age was during the first fifteen years of life in males, and between fifteen and forty-five in females.—*Inflammation of the brain, or its membranes*, was fatal to 254 males, and 206 females, and it occurred chiefly either in the first three months of existence, or between the fifteenth and sixty-sixth years.—*Inflammation of the lungs* accounts for 2211 deaths, the males being 1042, and the females 1169; and the ages at which it prevailed most was in the first three years of life, or above the age of fifteen.—*Apoplexy* proved fatal to 907, of whom 477 were males, and 430 females.—*Scirrhus, cancer*, and *cancerous ulcers*, occasioned death in 715 instances, of which 174 were men, and 541 women; and the prevailing age was above thirty.—*Aneurism of the heart* was fatal to 223 men and 286 women above the age of twenty.

Fevers, as the cause of mortality, are thus circumstanced. *Cerebral fever* carried off 339 males, and 340 females, chiefly between the sixth month and sixth year; *Typhoid*, or ataxic fever, 97 males, and 95 females; *Bilious fever*, 65 men, and 54 women—and these two last varieties attacked nearly all ages equally above the fifteenth year.

Among the diseases of infancy, *Convulsions* occupy the most prominent place, as the cause of death. 889 boys, and 852 girls, perished from convulsions, chiefly in the three first months of life, and between the first and fourth year. *Dentition* proved fatal to 154 boys, and 161 girls; *Measles* to 120 boys, and 202 girls; *Small-pox* to 85 boys, and 38 girls; *Croup* to 77 boys, and 78 girls. *Premature* and *Still-births* amounted to 1246, of whom 682 were males, and 564 females; and the number of deaths in the first three months, from mere original weakness, was 518, of which 215 were males, and 298 females.

A very striking circumstance here developed, and one which has been remarked before, is the much greater frequency of phthisis among females than among males. Taking phthisis and the corresponding disease after middle age, pulmonary catarrh, we find that for 1821 male deaths, there were among females 2377, which is nearly in the proportion of two to three.—*Ib.*

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32. *On the difference of mean longevity between the rich and poor.* (*Annales d'Hygiène Publique et de Médecine-Légale, Avril,* 1830.)—In the 20th volume of this Journal, (p. 212,) a notice has been introduced among the articles of Medical Intelligence, from the researches of M. Villermé, of Paris, on the relative mortality and longevity of the rich and poor orders of society in the French capital; and from that notice, it appears that in the arrondissements of Paris inhabited chiefly by the rich, the annual mortality is from one in 43 to one in 54, while in those inhabited chiefly by the poorer ranks, the mortality is so great as one in 24 or 25. This inquiry has been since taken up by M. Benoiston de Chateauneuf, who arrives at the same conclusion from different data. He restricts his researches to the very highest and the very poorest ranks.

For data as to the mortality of the former, he takes the various princes of Europe—the great church dignitaries, comprehending the whole cardinals, and the archbishops and bishops of France—the peers of France and England, and the lieutenant-generals, vice-admirals, presidents of the higher courts, directors general, ministers and councillors of state in France. These, at the beginning of 1820, formed a body of 1600 persons, whose ages extended from twenty to ninety-five; namely, 53 between twenty and thirty, 157 between thirty and forty, 370 between forty and fifty, 391 between fifty and sixty, 361 between sixty and seventy, 189 between seventy and eighty, 78 between eighty and ninety, and one above ninety. The number of each of these individuals who died in each of the ten years, ending with 1829, was 57, 47, 49, 56, 61, 61, 46, 51, 50, 44, which, taken together, form one third of the whole. The mortality at different ages was as follows: Of those between the ages of thirty and sixty, about three and a quarter per cent. died annually; between sixty and eighty, eleven and two thirds per cent.; above the age of eighty, thirteen and a quarter.

The other term of comparison is procured by taking 2000 of the inhabitants of the 12th arrondissement of Paris, where the workmen belong almost entirely to laborious trades, and are so poor that at least three fourths of them die in the hospitals. Among these 2000 individuals, M. Benoisten de Chateauneuf found, that of persons between the ages of thirty and sixty, seven and a quarter per cent. die annually; between the ages of sixty and eighty, twenty-one and nine tenths; and above eighty, all died within one year. The relative mortality at shorter intervals of ages, will appear from the following table, where the first line indicates the intervals of age, the second the annual per centage of deaths in the richest order of society, and the third the annual per centage in the poor ranks.

	30 to 40	— 50	— 60	— 70	— 80	— 90
Rich,	1.08	1.17	1.99	3.60	8.04	13.22
Poor,	1.57	2.13	3.59	7.50	14.36	100.00

It appears from an important document, printed a few months ago by the Faculty of Advocates of Edinburgh, that in that body, consisting of individuals who enter it not younger than 21, and on an average at the age of 23 or 24, the expectation of life, or the number of years which they live one with another after their admission, is 40. 2-11ths nearly. This calculation is taken from the lives of 210 individuals, the whole of whom entered before the year 1765; and since then it is well known that the average duration of life has been considerably improved. Among the 210 individuals, 118 survived their entrance (at the age of 24) 40 years or upwards. Of these 118, 29 survived between forty and forty-five years; 25 between forty-five and fifty; 25 between fifty and fifty-five; 17 between fifty-five and sixty; 13 between sixty and sixty-five; 8 between sixty-five and seventy; and one survived 72 years.—*Ibid.*

DOMESTIC INTELLIGENCE.

1. *Remarks in relation to the use of the Trocar in paracentesis abdomines. By* J**abez** W. H**eustis**, M. D., *of Alabama.*—Whoever has performed the operation of paracentesis of the abdomen with the trocar in ordinary use, must be aware of the degree of difficulty attending it. The operation is simple and unimportant in itself, but when the trocar is pushed against the parietes of the abdomen, considerable force is required to make it enter. This comes partly from the abrupt bluntness of the trocar, but principally from the resistance exerted by the canula; the surrounding parts closing upon and embracing the perforator, and thus refusing admission to the instrument without the use of considerable force. Having uniformly experienced these difficulties in the use of the trocar, of which I have used those of the best construction, I have for a considerable time laid this instrument entirely aside in all cases of ascites requiring puncturing. As a substitute, I make use of the common thumb lancet; in the distended state of the abdomen this is introduced without the least difficulty, and, contrary to what happens with the trocar, causes little or no pain. For a canula, to conduct the water, I make use of a quill, cut off at both ends. A silver canula, with one end closed, and a small opening on each side, would be more elegant, but not having an instrument of this description, I have found the quill answer every purpose. The superior advantage and facility of this mode of operating need only to be tried to be fully appreciated. I claim but little merit in the plan here described; presuming that others may have previously adopted the same: being a practice that would obviously suggest itself to every one who has had any share of experience in paracentesis abdominis.

2. *Case in which a nail was swallowed by a child six years old. By* J. W. H**eustis**, M. D., *of Alabama.*—On the ninth of November I was sent for in haste to visit a child six years of age, who, I was told, had swallowed a shingle nail. Upon my arrival I found the child apparently well, complaining of no pain or uneasiness, though I learned that his throat had been considerably scratched by the passage of the nail, which was rusty, and a little crooked at the point. I remained all night; but no unfavorable symptoms occurring, I did not think proper to exhibit any medicine with the view of producing the expulsion of the nail, concluding that the more quiet

the stomach and bowels could be kept, the greater probability would there be of its passing off without producing any injury. No unpleasant symptoms took place for about a week, when very early one morning the child was suddenly seized with pain and great sickness of the stomach, and in the effort of vomiting he threw up the nail he had swallowed, which had undergone little or no change from its lodgment in the stomach. The danger to be apprehended, was that by getting entangled in the mucous coat of the stomach or intestines, it might have brought on dangerous and fatal inflamation. And it would appear a little singular, that so rough a substance should have remained so long in contact with the delicate lining of the stomach without giving rise to any unfavorable symptoms, or even occasioning any painful sensation. The probability is, that in attempting to pass into the duodenum, it met with some obstruction at the pyloric extremity of the stomach, and, producing irritation, gave rise to the effort of vomiting, which caused its expulsion. Had the stomach failed in this effort, which we might consider as very possible, we may readily suppose that dangerous symptoms would have speedily ensued.

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3. *Cases of* DELIRIUM TREMENS, *with Remarks.* *By* LEWIS BELDEN, M. D., *of New-York.*—The two following cases, it is hoped, may serve, in some measure, to illustrate the utility of severe exercise or labor in Delirium Tremens. Before detailing the circumstances of the cases referred to, I would take occasion to observe, that the beneficial effects of healthy exercise and appropriate labor, have long been known and duly appreciated in certain kinds of mania. In Spain, for instance, we are told that experience and observation have established the maxim, that the poor generally may be expected to recover from mania, but the rich never; inasmuch as the former are habituated to labor, from necessity, and can easily be prevailed upon to continue the salutary practice, even when affected with mental derangement; but the latter, from pride and long cherished aversion to all kinds of labor, can never be induced to submit to what is equally regarded by them, in a sane or insane state, as utterly degrading to their conceived opinions of what pertains to wealth and rank. But, however salutary certain kinds of exercise and labor may have been considered, in many of the various sorts of maniacal derangement, yet in the species denominated delirium tremens, I am not aware, as far as my knowledge and observation on the subject extend, that their usefulness, as remedial agents, has ever been suggested. But if this kind of maniacal affection consist, according to the generally received opinion, in derangement of the nervous system, and if, in connexion with this, we consider the admitted utility of certain kinds of exercise and labor in chronic and nervous complaints, I believe it might reasonably be inferred, *à priori*, that they would, at times, prove salutary also in the delirium tremens. And here, perhaps, it may not be amiss to remark, that the obvious effects of labor and exercise are to coun-

teract the excessive mobility of the nervous and muscular systems, inducing quiet and wholesome sleep; and, indeed, by favoring the healthy exercise of all the natural functions, to impart tone and energy to all parts of the body. It is, doubtless, from this cause, that the deleterious effects of intemperate drinking, in producing the disease under consideration, are much slower in manifesting themselves in the constitutions of those who take much exercise, or perform severe labor, than in the constitutions of the sedentary and indolent. Again, from the same cause we find that the morbid influence of intemperance, in certain instances of unusually good natural constitution, is resisted, sometimes, even to advanced age. The carefully observing and discriminating practitioner will, therefore, readily perceive, from this consideration, the propriety of advising those who have unfortunately contracted intemperate habits, to avoid sloth and indolence, and pursue active and laborious employments. Exercise and labor, then, I infer, are valuable prophylactic or preventive means, in obviating, in some degree, the morbid tendency of intemperate drinking. From the developement of this principle, therefore, if from no other consideration, I conceive the subjoined cases are deserving of record. In the treatment of this disease, special reference should be had to the prominent and leading circumstances and symptoms present. In plethoric habits, in some few instances, particularly when the disease in its incipient state is attended with much excitement, venesection may be regarded as a valuable remedy; but in a great majority of cases I believe it not only of doubtful efficacy, but of dangerous tendency. Again, where biliary and hepatic derangement prevails, evacuants and alteratives, more especially emetics, have been found useful. And again, in cases of great nervous irritation, and frequently in the more advanced stage of the disease, sedatives and anodynes are specially indicated. To these, most medical practitioners yield a decided preference in almost all cases and conditions of the disorder; and it is by a judicious selection and combination of these and other remedies, according to the several indications presented, that this interesting but formidable disease is to be successfully combated.*

Having premised thus much, I now proceed to a brief detail of the cases referred to. On the 8th February, 1829, visited Charles Rucker, a confirmed habitual hard drinker; found him badly affected with delirium tremens; had not slept any for several days and nights previous; was much affected with the optical illusions common to this disease, complaining of the strange sights present to him; much disposed to wander and range about the house, and into the streets and market; talked and muttered a great deal to himself, at times quite incoherently; had much of the unsteadiness, with shaking or trembling, common to this disorder. Bled him moderately, gave him an emetic of ipecacuanha, and prescribed for him pills composed of opium, hyoscyamus, camphor, and calomel. On visiting him next day, found him growing worse—could not be prevailed on to take but very little of his medicine; was obstinate and unmanageable, unless force were used to restrain him. Advised a continuance of the medicine, and to give him freely of laudanum. On visiting again, found he had refused to take any more of his medicines; and had broke away from the family, and was heard of several miles out of the city, travelling at a very rapid rate. After an absence of a number of hours, he returned; the family thought, from inquiries made of him and others who had seen him in his rambling about the island, that he must have walked a distance of more than twenty miles. Saw him soon after his return, and found him perfectly calm and tranquil: not a vestige of his disease remained. Indeed, he appeared much brighter than usual, inasmuch as his intemperate drinking was wont to keep his intellects almost constantly blunted and beclouded. Could assign no good or sufficient cause for his restoration to health, but the severe exercise he had undergone in his hasty ramble about the city and island.

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* In a certain class of cases arising from protracted abstinence, or supervening upon certain diseases occurring in the persons of the intemperate, or in the collapse of the disorder, some physicians advise, for arresting the progress of the disease, a free exhibition of alcoholic stimulants. These cases I believe would be best treated by the free use of opium, or by opium combined with tonics and stimulants of a different class. From the great variety and peculiarity of cases, doubtless much of necessity must be left to the good sense and discriminating judgment of practitioners. To presume, therefore, to recommend a single remedy, or a single unvarying mode of treatment, to the neglect or exclusion of all others, savors too much of empyricism; and from the variant nature of cases occurring, cannot therefore be deemed entirely consonant to reason and the most successful practice. But in the choice of remedies, other things being equal, a preference for obvious reasons should doubtless be given to those least obnoxious to abuse.

The following case we think will appear strongly corroborative of the salutary influence of severe labor, in repeatedly overcoming and dispelling the disease. J. S., the son of a respectable and intelligent mechanic of this city, was attended by the writer of this, more than two years since, in a severe attack of delirium tremens. Prescribed for him a gentle emetic, to be followed by often repeated doses of laudanum, to be gradually increased till sound sleep should be induced. Ascertained, on visiting him the succeeding day, from his sister, in whose truth and correctness implicit confidence may be placed, that although he had taken about ℥vss. of laudanum, yet he had slept but very little. His father, at his son's request, had sent him into the shop; and he told me, that working hard seemed to calm and sober him.

Visited him recently for a like attack. Found that his habit was plethoric and bilious; bled him, and prescribed an emetic, to be followed by anodynes. In the course of conversation with his father, learnt from him that his son had been several times affected with delirium tremens, and that the disease had been repeatedly removed by keeping him from all spirituous liquors, and putting him to hard labor in the workshop. Said that he had lost his other son, older than this one, by the same disease. Observed that the elder son had had several attacks before his death, and that his former family physician [who has since died, it is believed, with the same disease,] used bleeding as the principal remedy in the case. On again visiting the patient, found him at his dinner along with the family, and eating heartily. Could doubt no longer of the salutary influence of severe exercise and hard labor, in certain cases of mania from intemperate drinking.

In conclusion, I would briefly remark that I purposely forbear speaking specially of the applicability of exercise and labor as remedies in themselves, or adjuvants in certain cases to other remedies, wishing to leave the subject to the judgment and discrimination of medical practitioners to draw from it and the cases detailed, what conclusions they may think warranted in the premises. Observing, however, that benevolent persons friendly to the cause of temperance, have suggested the propriety of erecting asylums for drunkards in or near the cities and large towns. And should the plan ever be carried into operation, either by special municipal regulation or by private beneficence, the utility of suitable exercise and well-adjusted labor, separately or combined according to the particular circumstances of the cases presented, might be so tested as to arrive at satisfactory conclusions.

4. *Case of strangulated Hernia in a child seven weeks old, relieved by an operation, by* BENJAMIN OBER, M. D., *of New-York.*—On Thursday evening, May 6, I was called to visit an infant seven weeks old, laboring under congenital scrotal hernia, which for about five days had been strangulated. Applications of ice and of tobacco had been occasionally made to the parts; and frequent attempts had been made by the mother to reduce the tumor by the taxis. Injections had been frequently administered, but (excepting the first, which brought with it a small quantity of feces) had procured no discharge from the bowels, which had been constipated for five days.

The integuments over the tumor, which filled one side of the scrotum, and extended the whole course of the inguinal canal, were of a dark crimson color, and the least pressure appeared to give great pain. The child cried out often, and at the time I saw it, vomited frequently and had hiccough. I requested the attendance of the physician who had had the care of the patient, but as he declined coming, alleging that all had been done which could be, and recommending a continuance of the measures that had been pursued, I told the parents of the child that the probability was, nothing could relieve it but the operation. I, however, administered a few drops of solution of tartar emetic, and after keeping it in a warm bath till deliquium seemed about to supervene, made an attempt at reduction, which did not succeed.

The patient was much exhausted by the bath, and thinking it better the operation should be deferred till it should revive, and as it was now late, I gave an anodyne and left it till morning.

I called early in the morning, and found it had had a bad night. It now had frequent bilious vomitings, constant hiccough, pulse at the wrist imperceptible, and countenance death like. The parents, now thinking it dying, absolutely refused their consent to an operation; and from the small apparent chance of success I could not urge it strongly.

I called frequently through the day, hoping it might show some change that would render an operation feasible—prescribed the occasional administration of a few drops of paregoric in warm milk, which was immediately rejected.

The next morning, May 8, I found the vomiting and hiccough less frequent, the pulse perceptible, and the countenance better. On explaining the case as well as I was able to the parents, they now consented to an operation. At my request, Dr. J. C. Cheesman was called, who undertook and very handsomely conducted the operation.

The lower part of the tumor, instead of omentum or intestine, as was expected, was found to consist of extravasated blood, resembling hydatids, and produced, probably, by the frequent attempts to reduce the hernia. Just under the external ring was a small knuckle of intestine, and which, though darker than natural, was not gangrenous. The superior column of the ring was divided, and the operation concluded without any unpleasant circumstance, and in a few minutes a natural and free evacuation of the bowels took place. Considerable inflammation and tumefaction supervened, but it soon yielded to emollient applications, and on the 15th day from the operation the wound was perfectly healed, and the patient in perfect health.

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5. *Case of Monstrosity, by* Mark Stephenson, M. D., *of New York.*—Mrs. E., aged 40, of a delicate constitution and scrofulous habit, was married at an early age and had several healthy children. After this her husband died, and she remained a widow six or seven years.

In the month of September, 1827, she had enlargements of the submaxillary glands, which suppurated, and discharged much matter; under appropriate remedies they were entirely healed, and have never made their appearance since.

On the 24th of August, 1828, she was again married, soon after which she had all the symptoms of pregnancy. The uterus continued to enlarge much more rapidly the first four or five months, than it did the succeeding period of gestation.

Her symptoms during the latter period of pregnancy were of a singular nature: viz. frequent rigors, producing an agitation of the whole system; these were succeeded by flashes of heat, quick pulse, &c. She complained of a cold, heavy and dead weight about the uterine region; and whenever attempting to change her position in bed, the uterus, with its contents, would seem to roll from one side of the abdomen to the other, as if in a detached state. Prior to her delivery, she had several attacks of violent flooding from the uterus. She frequently remarked to her friends, that she never had experienced such a train of distressing sensations during her previous pregnancies.

On the 27th of June, 1829, she supposed herself in labor, it being about the close of utero-gestation. At this time I was summoned to see her, and on my arriving at the house the nurse stated to me that something had come from the patient; but that it was not a child. I immediately repaired to the bedside; and upon examination found that a substance had been expelled, of the size and appearance of a large bullock's bladder. From a more accurate examination of the substance, it proved to be a regularly formed sac, gradually decreasing in size from its fundus, and terminating in a well formed cervix, having an orifice, at which part its coats were much thickened, affording a surface for attachment to the uterus.

The sac had three distinct coats, a membranous, muscular, and villous coat. At the orifice of the sac there was a fatty substance projecting, which I drew out. It was of an adipose structure, partaking somewhat of the appearance of gland. It also possessed some uniformity of shape, having a body and extremities, but in no respect organized. In addition to this, the sac contained about two quarts of very fetid bloody matter.

Doctor Belden, of this city, was called in to witness this curious phenomenon; and to his care the patient was intrusted, as I then left the city for a few days.

After delivery there was considerable fever for a few days; but by the use of judicious and appropriate remedies, was soon subdued; and in the course of one week she was perfectly restored.

The substances expelled are now in my possession, preserved in nearly as perfect a state as when first obtained.

BIBLIOGRAPHICAL RECORD.

Acta Regiæ Societatis Medicæ Harniensis. Volumen VII. Harniæ, MDCCCXIX.

It appears that this learned Society has been in existence eight years, during which period its transactions, annually published in an unpretending but neat duodecimo, bear honorable testimony to the industry and zeal of its members. Among these, we find several distinguished physicians of our own country, Drs. S. L. Mitchell, Chapman, Physic, Gibson, Coxe, &c. Dr. Otto is the Secretary of the Association, and appears to have borne a conspicuous part in forwarding its objects. To him we are indebted for the present interesting volume, as well as for the Danish works which follow. We are happy in being the instruments of opening a correspondence with our medical brethren in the North of Europe, and shall gladly lay the most interesting results of their scientific labors before the American public.

Tiddskrift for Phrenologien. Udgivet af C. OTTO, M. D. 1829. *Kiobenhabn.*

Bibliothek for Laeger. Udgivet af Directio nen for deb Classenske Literatur. Selkskab Redigevet af dens medlem C. OTTO, M. D. *Jannar—Marts; April—Juni; Juli—September; October—December*, 1829.

Estatutos da Sociedade de Medicina do Rio de Janeiro. 8vo. 1830.

Statutes of the Medical Society of Rio Janeiro. 1830. 8vo. pp. 17.

The President of the Medical Society of New-York has received a letter from the Secretary of the Medical Society of Rio Janeiro, the capital city of Brazil, informing him of the institution of the Society on the 30th of June, 1829. It was subsequently chartered by a decree of the Emperor. Its object is the promotion of medical science. To ençourage researches among the members of the profession, two premiums are annually offered for interesting essays and memoirs on general subjects connected with medicine, and a third, still higher, for the best dissertation on the endemic diseases of the country, A friendly and scientific correspondence is solicited with the Society in this city. We are truly pleased to see the ardor with which the profession is animated in the cause of scientific research and improvement, extending even to the empire of Don Pedro. It is an auspicious sign of the times.

Manual of Therapeutics. By L. MARTINET, D. M. P. *Translated, with alterations and additions, by* ROBERT NORTON, M. D., *Extraordinary Member of the Medical Society of Edinburgh. New-York;* C. S. Francis, 252 *Broadway.* 12mo. pp. 278. 1830. *From the publisher.*

This is a useful little volume for the student or young practitioner; the indications for the treatment of diseases, given in a plain, practical form, will be found generally correct. The character of the author will insure confidence in the work itself, and the additions made by the translator, principally from the labors of Abercrombie, Armstrong, Bateman, Maculloch, Mills, Prout, Scudamore, and Thomson, give an increased value to it.

A Practical Formulary of the Parisian Hospitals, exhibiting the prescriptions employed by the Physicians and Surgeons of those establishments; with remarks, illustrative of their doses, mode of administration, and appropriate application. Also, general notices of each Hospital, the Diseases it especially receives, and Medical Doctrines of the Practitioners who preside in it. By F. S. RATIER, M. D., *Doctor in Medicine of the Faculty of Paris, and Corresponding Member of the Royal Medical Society of Bordeaux. Translated from the third edition of the French, with notes and illus-*

trations, by R. D. M'Lellen, M. D., *Licentiate of the Royal College of Surgeons. New York:* C. S. Francis, 252 *Broadway.* pp. 262. 12mo. 1830. *From the publisher.*

This Manuel is made interesting by the general observations on the French hospitals, which precede the mere practical part of the work. We here have placed before us, not only the internal arrangement of the many institutions of the kind which Paris contains, but also the mode of practice adopted by the several physicians connected with them. We wish we could believe that the following remarks were equally applicable to our hospitals and asylums.

"Through the care of a benevolent administration, the hospitals of Paris, designed originally as asylums for misfortune and suffering, have become the centre of solid medical instruction. Clinical schools are formed on every hand, under the auspices of the most celebrated men, from whose lessons studious youth seek instruction with ardor. Each is seen using to advantage the position in which he is placed, directing his efforts towards a point which he illustrates by ingenious experiments and persevering research, and thus powerfully concurring to aid the progress of science and of art."

Besides the chapters of general observations, and a practical formulary, the volume contains a posological table, and a collection of particular remedies, or those new agents and compositions which have been recently introduced into the materia medica, or are administered from peculiar therapeutical doctrines. The work will be found useful, especially for those who intend to perfect their studies in the medical schools of the French metropolis.

Etudes sur l'Inflammation, en deux parties. La premiére comprend la théorie de l'inflammation et son traitement en général; la seconde, les inflammations des différentes parties du corps en particulier. Par C. L. Sommé, *Docteur en Médecine, Chirurgien en chef de l'Hopital civil d'Anvers, Professeur d'Anatomie et de Chirurgie, etc. Bruxelles.* 8vo. pp. 290. 1830.

Professor Sommé devotes the first chapters of this recent work to a brief exposition of the different opinions of the nature of inflammation, from which we are taught, that he by no means is attached to the peculiar doctrines of Broussais. He observes, that the word *irritation* has been much abused in confounding it with *inflammation*. The first being an increased action of the nerves, produced by solid, liquid, or gaseous bodies: inflammation, or phlegmasia, excited by this irritation, is a natural action of the injured organism, by which it seeks to remove the causes thus affecting it. This irritation, produced by any other morbific cause, it is equally erroneous to call an inflammation. Throughout the work, the "physiological doctrine" meets with little mercy from the Professor, who, although he has not presented any original views of moment, has given us a monograph, in which is condensed much of what is practically useful.

The Anatomy, Physiology, and Diseases of the Bones and Joints. By Samuel D. Gross, M. D. *Philadelphia*: John Grigg. 8vo. pp. 390. 1830. *From the publisher.*

It is the object of this volume to supply deficiencies in the medical literature of the United States and Great Britain on diseases of the bones and joints, and to furnish the student with a plain, concise and practical digest, embracing an account of the most important facts and observations on the subject. We purpose in our next number to present an extended notice of its important contents.

Elements of General Anatomy, or a description of every kind of Organs composing the Human Body. By P. A. Beclard, *Professor of Anatomy of the Faculty of Medicine of Paris. Preceded by a critical and biographical memoir of the life and writings of the author. By* Olivier, M. D. *Translated from the French, with Notes, by* Joseph Togno, M. D. &c. *Philadelphia*: Carey & Lea. 8vo. pp. 541. 1830.

A Treatise on the Practice of Medicine. In two volumes. By John Eberle, M. D., *Professor of Materia Medica and Obstetrics, in Jefferson Medical College, &c. &c.* 8vo. pp. 528—550. *Philadelphia*: 1830.

A Practice of Physic, comprising most of the diseases not treated of in "Diseases of Females" and "Diseases of Children." By Wm. P. Dewees, M. D. &c. *Philadelphia.* Two vols. 8vo. pp. 833.

These two last works shall form the subject of a separate article in the next number.

Researches principally relative to the morbid and curative effects of loss of Blood. By Marshall Hall, M. D., F. R. S. E. *Philadelphia,* 1830. 8vo. pp. 183.

An Address, delivered before the Greene County Medical Society, May 6th, 1830, *together with resolutions adopted by the Society. By* E. Pierce, M. D., *President of the Society. Catskill,* 1830.

Report of the Medical Visiters of the Connecticut Retreat for the Insane. Presented to the Society, May 13th, 1830, *&c. Hartford.* 8vo. pp. 22. *With tables.*

This is a most interesting document, and calculated to call up a blush in a New-York physician, when he contrasts it with the meagre reports of a similar nature, which issue from his own city. Its statements deserve analysis, but we have not room in the present number.

Treatise on Neuralgic Diseases, dependent upon irritation of the Spinal Marrow and ganglia of the Sympathetic Nerve. By THOMAS PRIDGIN TEALE, *Member of the Royal College of Surgeons in London, &c. &c. Philadelphia*: 1830. 8vo. pp. 120.

The term Neuralgia is not used in this very excellent practical treatise, in the restricted sense which was formerly attached to it in works of surgery. It is made to comprehend all those affections of the nervous system, which are accompanied by deranged sensations; and more especially those dependent on affections of the ganglionic system. Dr. Teale's book should be carefully perused by every physician. It will open up to his view and notice many novel and interesting views in the pathology and treatment of a numerous and frequently vexatious class of diseases.

The Diseases of the Ear. By J. A. SAFFRY, *Member of the Royal Academy of Science, Literature and the Arts, Lyons. &c., honored with a premium by the Medical Society of Bordeaux,—and since enlarged by the author. Translated by* NATHAN R. SMITH, *Professor of Surgery in the University of Maryland; with a Supplement on Diseases of the External Ear, by the translator.* 8vo. 1 vol.

Thoughts on the Original Unity of the Human Race. By CHARLES CALDWELL, M. D.: *New York*, E. BLISS, 128 *Broadway*. 12mo. pp. 178. *From the publisher.*

We have been much interested in the perusal of this work, which, as we are informed by the author, was originally prepared as a review of Dr. Pritchard's "Researches into the Physical History of Man;" and as such intended for one of the "Quarterlies" of our country. For those who have a taste for the more abstract researches into the zoology of man, Dr. Caldwell has offered much matter for serious consideration.

Outlines of the Science of Life; which treats physiologically of both body and mind; designed only for philosophers and other candid persons. To which are added, Essays on other subjects. By ELISHA NORTH, M. D., *of the Connecticut Medical Society, &c. &c. New York*, COLLINS & Co., 117 *Maiden-Lane.* 1830. 8vo. pp. 202. *From the author.*

Dr. North is already creditably known as the author of an ingenious treatise on the spotted fever. The present volume, besides the physiological and metaphysical essay on life, contains several papers on medical subjects, which the writer has taken the present opportunity to lay before the public. Dr. North, as far as we can judge, is a much better medical practitioner than physiologist. In philosophy he is a materialist; but, to say nothing of the correctness or error of his doctrines at present, we do not think him the less entitled to our notice; at all events, we do not believe that *his* arguments will prove of much avail in overthrowing the established opinions of ages. Dr. North's note, on the 25th page, strengthens our early conviction that there is scarcely, if any, difference, between the fanaticism of religion and irreligion; both are equally reckless of time and place for the introduction of their bigotries; and both extremes often meet with equal devotion, in the most unhallowed persecutions, the deepest designs of hypocrisy, and indiscriminate violation of every religious, moral and civil right. At some future time we may give Dr. North's Essay on Physiology a more particular notice.

Pathological and Practical Researches in Diseases of the Stomach, the Intestinal Canal, the Liver, and other Viscera of the Abdomen. By JOHN ABERCROMBIE, M. D., &c. *Philadelphia:* CAREY & LEA, 1830. 8vo. pp. 416. *From the Publishers.*

Mr. Abercrombie's work is too well known to need our commendation. It is in the hands of every practitioner.

Principles of Military Surgery; comprising observations on the arrangement, police and practice of Hospitals, and on the history, treatment and anomalies of Variola and Syphilis. Illustrated with cases and dissections. By JOHN HENNEN, M. D., F. R. S. E., *Inspector of Military Hospitals. First American, from the third London edition. With a Life of the Author; by his son,* DR. JOHN HENNEN. *Philadelphia:* CAREY & LEA, 1830, 8vo. pp. 452.

We are happy to see an American reprint of this useful volume. The character and talents of the author will ever give to it a valuable place among the standard works of medical literature. We conceive the possession of the work to be almost indispensably necessary to military surgeons; and the perusal of the treatise on syphilis we would particularly recommend, in connexion with our third article of Reviews.

The Medical and Surgical Essays of the late Professor NATHAN SMITH, of Yale College, we understand will soon be put to press.

Very few men have had more extensive opportunities of practice in the various departments of medical science than Dr. Smith enjoyed; and fewer still have held a higher (and we believe a just) reputation for the exercise of all the qualifications of an ingenious and judicious practitioner. The labors of such a man must ever prove valuable, and we have a pleasure in believing that the selections from his many printed and manuscript essays will be ably made by his son, Nathan R. Smith, M. D. Professor of Surgery in the University of Maryland. Besides the intrinsic value of the work, there are other considerations which should insure it a place in the library of every physician. It will indeed be an addition to the yet small stock of tandard works of American physicians.

MISCELLANEOUS.

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1. *University of the State of New-York.*—The College of Physicians and Surgeons in this city opened its twenty-fourth annual session on Monday the 1st of November. Upwards of one hundred and sixty students have already matriculated.

At the College of Physicians and Surgeons in Fairfield, nearly two hundred students attend lectures.

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2. Lewis C. Beck, M. D., of Albany, has been appointed Professor of Chemistry and Natural History, in Rutgers College, New-Brunswick. The extensive acquirements, indefatigable industry, and scientific zeal of this gentleman, render his selection a most important and useful one to the thriving institution with which he is hereafter to be connected.

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3. Dr. Guy C. Bayly has been elected Resident Physician to the Lunatic Asylum at Bloomingdale. We sincerely hope that the professional ardor of the new incumbent may be awakened so far as to induce him to present his medical brethren with the results obtained at an institution so peculiarly fitted to illustrate some of the most important and interesting diseases, and which has hitherto been as a sealed book, in so far as science is concerned.

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4. Dr. Xavier Tessier, cidevant editor of the Quebec Medical Journal, has been appointed Health Officer of the port of Quebec. A just and very high compliment has thus been paid, by the British Colonial government, to the talents and professional distinction of our very excellent friend. We anticipate from his skilful and experienced pen, important communications on the subjects which will naturally come under his inspection.

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5. We republish, by request, the following interesting article, which was incorrectly printed in the last number of the late New-York Medical and Physical Journal.

Professor J. A. Smith, in his lecture on the physiology of the nervous system, observed, that he believed that comparative anatomy had at length shed some light on the real use of the great sympathetic cerebro-splanchnic nerve. "It has been discovered," he said, "that as you descend in creation, the nerve in question becomes smaller and smaller, while the pneumo-gastric nerve, or par vagum, augments comparatively; in the same proportion, until, finally, in the molluscous animals, the great sympathetic entirely disappears.

"From these facts," the Professor observed, "the following inferences might, he thought, be drawn :

"1st. That the great sympathetic is *not* the connecting link between organic and animal life, since it is not essential to the existence of either the one or the other of these lives.

"2d. That as the par vagum not only gradually supplies the decreasing power of the great sympathetic, but ultimately becomes a complete substitute for it, the conclusion is unavoidable, that these nerves are, to a great extent, at least, subservient to the same purpose. But the use of the par vagum is well known to be, to cause the blood to be æreated, and the food to be digested; and such, also, must be the principal functions of the great sympathetic. That this nerve may answer other ends in the animal economy, is possible, and, from its anatomical distribution, probable ; but that it is chiefly subservient to the important purposes above mentioned, Professor Smith held to be certain."

[*Note.*—To these terms Dr. S. always objects, and he observed, that he introduced them on this occasion merely to do away more effectually the gratuitous distinction on which they are founded.]

6. Dr. J. Kearney Rodgers very recently performed, at the New-York Hospital, the interesting operation of exsection of a portion of the femur, between the trochanters, in a case of anchylosis of the hip-joint. We are in hopes of giving to our readers the particulars of the case, when the result shall be known.

Medical Society of the City and County of New-York.

The following gentlemen constitute the Comitia Minora of this Society for the present year :

Daniel L. M. Peixotto, M. D., *President.*
R. K. Hoffman, M. D., *Vice-President.*
John R. Rhinelander, M. D., *Delegate.*
Samuel W. Avery, M. D., *Secretary.*
Dr. Wm. Rockwell, *Treasurer.*
John Jas. Graves, M. D., Lewis Belden, M. D., D. L. Rogers, M. D., Wm. Hibbard, Jun., M. D., and Alfred C. Post, M. D., *Censors.*

ERRATA.

Page 105, line 12, for "*chemical*" read *chimerical.* Page 111, lines 8 and 9, for "*which ideas he advanced in a memoir before,*" &c. read, *which he condensed in a memoir read before,* &c. Page 163, fifth line from bottom, for "*industry of the able and industrious editor,*" read, *industry of the able editor.*

THE

NEW-YORK MEDICAL JOURNAL.

FEBRUARY, 1831.

ARTICLE I.—*Report of a select number of Surgical Cases, occurring in the New-York Hospital, in the months of July, August, September, and October,* 1830. *By* ALFRED C. POST, M. D., *of New-York.*

CASE FIRST.—*Gonorrhœal Ophthalmia. Sloughing of both Corneæ.*

Joseph Fevre, born in France, aged twenty years, of delicate constitution, admitted July 24th, 1830. Purulent ophthalmia of both eyes, with chemosis. Inflammation came on three days before admission. Patient had been affected with gonorrhœa for several weeks. V. S. ad ℥x. This occasioned considerable relaxation. An hour afterwards patient was cupped on left temple, and fainted on application of first cup. 25th. Antimonial solution internally. Solution of superacetate of lead, gr. j. to ℥j. as a collyrium. 26th. Lower lids scarified; four leeches applied below each eye. 29th. Since last date lids have again been scarified, and patient purged and cupped repeatedly. No marked change has take place in the condition of his eyes. Suppuration is profuse. Chemosis is considerable, but having a rather pale appearance, as it had at the time of his admission. Corneæ are sound. 31st. Corneæ have become somewhat opaque. Aug. 1st. Corneæ are sloughing at the upper part. 16th. After last date, sloughing proceeded rapidly in spite of the most active treatment, which consisted of frequent cupping, leeching, purging, blistering, &c. &c. In a few days inflammation was arrested, and the eyes are now improving; but in one of them the slough extends over the whole cornea, and in the other, but a small part remains sound. He is now treated chiefly by blisters applied alternately behind the ears, and to the back of the neck. Nov. 1st. The ulcers which were left by the sloughing of the corneæ have healed up, but the corneæ are, of course, opaque throughout nearly their whole extent, and vision is almost entirely destroyed.

This case serves well to illustrate the extreme obstinacy and danger of that form of purulent ophthalmia which is excited by the gonorrhœal virus. It is doubtful, in this instance, whether the matter was directly applied to the eyes, or whether it exerted its influence through the medium of the constitution.

CASE SECOND.—*Erysipelas of the Face, following the application of Sulphuric Acid.*

Jacob Sillgee, born in Prussia, aged fifty-one years, admitted 18th of June, 1830. Entropion of lower lid of both eyes. Pure sulphuric acid was applied several times to the skin immediately below the lids. The last application was on the 17th of July. On the 23d the patient had chills, succeeded by fever, slight redness, and soreness of the scalp. The tongue was covered with dirty white fur. Ordered antimonial solution. 24th. Evening. Tongue furred as before; dry on right side, moist on the left. Face much swollen, and very hot on the right side, slightly so on the left. Patient complains of severe pain in the forehead. Pulse is frequent, and somewhat hard, but not full. Skin dry, and, except on the face, of natural temperature. (Calom. gr. ij. Pulv. antimonial, gr. iv. every two hours. Watery infusion of opium applied to head and face.) 25th. Symptoms nearly the same as yesterday, Continue cal. and ant. Blister applied to the back of the neck. 26th. Pain in the head is somewhat relieved. Small vesications have appeared on the face. Skin is hot and dry. Pulse frequent, but not full nor hard. Tongue dry, and slightly furred. Blister applied to the right side of the face, extending from the temple to the lower jaw. 27th. Patient feels much better. Pulse has moderated in frequency; skin is cool, and natural. Blister has drawn but little. Omit cal. and ant. Ordered sulph. magnes. ʒvj. 28th. Left side of the face has become affected with erysipelas. Left side of the tongue is dry, and right side moist. There is a slight febrile excitement. Apply a blister on the left side of the face. Let patient drink tamarind water. 29th. Patient was somewhat troubled with diarrhœa during the night. Omit tamarind water. In the evening, diarrhœa having ceased, patient having had no stool during the day, resume use of tamarind water. 30th. Inflammation and fever have, for the most part, subsided, but tongue still remains foul, and patient has no appetite. (Muriate of ammonia, gr. v. every two hours.) Aug. 2d. Patient continues to improve slowly. Tongue is becoming cleaner at the edges. 5th. Cuticle has in great measure exfoliated from the face. Tongue has become clean. Patient is free from fever, and is recovering his appetite.

The practice of applying blisters immediately on the inflamed surface, in erysipelas, which has been so highly extolled by Dupuytren, has been employed in the New-York Hospital in a number of cases besides the one just recorded, with the most marked benefit.

The common application which is made to erysipelatous parts by the surgeons of the New-York Hospital, is the infusion of opium, made by pouring a pint of boiling water on a drachm of powdered opium, and after it has stood half an hour, straining it through linen. It is commonly applied warm, and no application is found to be more soothing. It is also used in some other inflammatory affections with advantage.

CASE THIRD.—*Lacerated wound of the scalp. Bone denuded. United principally by adhesion.*

Louis Anton, born in Pennsylvania, aged thirty-one years, admitted August 17th, 1830. Lacerated wound of the scalp at its upper part; a triangular portion of integument three or four inches long, and about as wide at its base, torn from the parts beneath; bone denuded of pericranium to extent of a dollar. The injury was occasioned by a fall from a two-story window, about an hour before he was brought into the hospital. The edges of the wound were brought together, and retained by a suture at the angle, and by adhesive thongs at the sides, head having previously been shaved. Patient complains of no headache, but has some pain in the anterior part of the chest, which is increased by taking a full inspiration. An active cathartic was administered, and patient was cupped over the chest, by which he was greatly relieved. 21st. Patient feels soreness in the wound, but no headache. Very slight pain in the chest. He complains of pain in back part of his shoulders, when he moves his arms backward. 24th. Wound was dressed. Throughout nearly its whole extent it had healed, but a small opening remained, through which purulent matter could be pressed out. Sept. 10th. Wound entirely consolidated. Patient discharged, well.

CASE FOURTH.—*Pericarditis. Tubercles of the Heart.*

Thomas Goodall, sailor, born in Maryland, aged fifty-three years, admitted 11th June, 1830. Patient came into the hospital on account of a malignant tumor filling the left orbit, and forming a considerable prominence in front. The eye had been extirpated by Dr. Cheesman two years before. The tumor appeared about eighteen months after the extirpation of the eye. Aug. 1st. Patient complained yesterday morning, after having sat up with a patient the night before, of slight pain in the region of the heart, for which he was directed to take a cathartic, and confine himself to low diet. This morning the pain is increased, and he has some dyspnœa. 7 P. M. Pain in the region of the heart, and dyspnœa, have greatly increased. Anxious expression of countenance. Headache and sense of weakness. Tongue moist, and slightly coated with a white fur. Pulse not remarkably full, nor hard, but frequent, and extremely irregular, so that scarcely any two pulsations are in accordance. Skin nearly of natural temperature. From the *ensemble* of the symptoms, the disease was confidently pronounced to be an inflammation of the heart or pericardium. Patient was bled to twenty ounces, and experienced great relief from the operation. Solution of sulphate of morphin, gtt. xl. and spt. mindereri, ʒss. were given immediately, and a large blister applied over the region of the heart. 9½ P. M. Patient has had a little sleep. Feels in some measure relieved. Pulse is still very irregular. Patient has been costive for several days past. The cathartic which he took yesterday did not operate freely. Ordered calomel, gr. xv. aloes, gr. v. immediately; and, two hours afterwards, sulph. magnes. ℥j. Aug. 2d. 5 A. M. Cathartics have not yet operated. A stimulant injection was ordered, and it very soon operated. 6½ A. M. Blister has drawn pretty well. Patient feels greatly relieved. No more headache. Pain in chest, and difficulty of breathing, abated. Blood drawn last evening is neither cupped nor buffed. Pulse is this morning much less irregular. Tongue is somewhat more coated. Temperature of skin remains nearly natural. (℞. sennæ fol. ℥j., mann. ʒiss., sulph. mag. ʒij., fund. aq. bullient, 0j., cap. tertium partem 2d, a quaq. hora donec alvus respondent.) Evening. Pulse has again risen. (V. S. ad ʒxiv.) Aug. 3d. Patient slept pretty well last night. He perspired very profusely. Skin this morning is cool and moist. Pulse feeble, and still irregular. Tongue moist, and slightly covered with a yellowish fur; clean at the edges. Blood drawn last evening buffed, but not cupped. Evening. Patient much improved. Pulse intermits at fourth or fifth beat, but in other respects is nearly regular. 4th. Intermissions of pulse much more rare. 6th. Regular improvement in all respects. Intermissions of pulse very rare. 11th. Pulse irregular again this morning, attended with a sense of oppression about the chest, accompanied with rumbling of wind in the bowels. Irregularity of pulse soon ceased. Sense of oppression was relieved by a pill of assafœtida. 20th. Complains again of pain in the chest; but pulse is not irregular. Patient has been costive for several days past. Sulph. magnes. 21st. Considerably relieved. Apply a blister over the region of the heart. 23d. Pain in region of heart increased, attended with anxiety, and sense of weakness. Pulse somewhat hard, frequent, and irregular. Tart. ant. gr. ⅛ every two hours. V. S. ad ℥xij. Patient much relieved. Tart. ant. causes vomiting. Discontinue it. Sept. 10th. Since last report patient has been doing well; he has had but little pain or uneasiness in the chest. On the 25th Sept. Dr. Mott extirpated the tumor which occupied the left orbit. The hemorrhage, during the operation, was very profuse. It was arrested by crowding the orbit with lint, and making pressure over it. The extirpated tumor was found to be a melanosis. Patient died on the 2d of October, from repeated hemorrhage from the orbit. On examining the body, the brain was found to be in a healthy state. The left optic nerve was reduced to about half the size of the right one; little pullulations surrounded it as it entered the optic foramen. On opening the thorax, the pericardium was found to be concealed by the lungs; it was closely adherent on all sides to the heart; the substance of the heart was considerably softer than natural. At the apex of the right ventricle was a tubercular mass as large as a hickory nut, and a smaller one was found in the side of the left ventricle. These tubercles were developed within the substance of the heart. The lungs were healthy. The liver contained a number of tubercles of different sizes.

Tubercles are more rarely met with in the heart, than in almost any other organ. Laennec met with them only three or four times in the course of his extended and minute investigations relative to the pathological anatomy of the thoracic viscera. On this account, as well as several others, the case above related is highly interesting.

CASE FIFTH.—*Erysipelas of the Head, extending to the Trunk.*

John Woodward, born in Rhode Island, aged thirty years, admitted 12th of April, 1830. He had two small tumors on his head, which suppurated, and were opened soon after his admission. Pericranium was found to be diseased at those parts. Wounds remained open, and patient was troubled with very severe pains in his head. July 10th. Erysipelas has appeared behind the right ear. Ordered cal. gr. x., pulv. rhei, gr. xv.

Apply a blister over the inflamed part. 11th. Blister has drawn well, and the skin has resumed its natural color, but erysipelas has made its appearance behind the left ear. Apply a blister over it. Antimonial solution taken internally. 12th. Redness has disappeared from the blistered surface, but the skin of the right ear has assumed a bright red color. 13th. Erysipelas has extended over the forehead and cheeks. A blister was applied over the forehead, and dressed with mercurial ointment. The same ointment also applied to the cheeks. 15th. Whole face red and swollen. Patient delirious, especially towards night. Pulse full and frequent, and somewhat hard. Tongue covered with a thick white fur. Calomel, gr. ij., pulv. antimonial, gr. iv. every two hours. About twenty punctures were made with a lancet in the nose, which was very much swollen. The punctures bled freely. 16th. Several visicles have appeared on the face. Pulse is somewhat diminished in frequency and force. Tongue less furred. Heat of skin diminished. Continue cal. and ant. 17th. Patient is much better, although he still shows some signs of delirium. He has an appetite for food and tobacco. Slight desquamation of cuticle. Face continues swollen. 18th. Mouth begins to be sore. Omit cal. and ant. 19th. Tumefaction of face much diminished. A hard swelling, which has existed for several days in upper lid of the left eye, has suppurated; punctured with a lancet, and matter discharged. Apply a soft bread and milk poultice over it. 20th. The right ear has again become red and painful. Apply to it the infusion of opium. 24th. Inflammation of the ear is somewhat diminished. The swelling of the face has, in a great measure, subsided. For two or three days the patient has been free from fever in the morning, but not in the evening. He takes sp. mindereri, a table spoonful every hour. Complains this evening of soreness in the back of the neck. It is hot and red. The skin in general is hot and dry. Ordered a blister to the back of the neck. 26th. Two doses of sulph. quinin., each gr. j., ordered to be taken at an interval of two hours, in the morning, while patient is free from fever. Fever more moderate in the evening than for several evenings past. 28th. Erysipelas has extended half way down the back. During the past night patient had an involuntary stool, after having passed twenty-four hours without any evacuation from his bowels. 29th. Patient having some fever this morning, omit sulph. quinin. Continue sp. mind. with tart. ant. gr. $\frac{1}{8}$. Apply a blister at lower edge of erysipelas. 30th. Slight febrile excitement. Tongue covered with brown dry fur. Patient appears much prostrated. Erysipelas has extended beyond the blister. Apply a blister over the inflamed part

Let the patient take muriate of ammonia, gr. viij. every two hours. Aug. 2d. Inflammation appeared for a time to be checked by the blister, but it is again spreading downward and forward. It is fading on the upper part of the back. There has been a recent accession of erysipelas on left side of the forehead. Apply an annular blister around it. Apply equal parts of aq. ammon., and ether, to the portion of erysipelas on anterior part of chest. Continue opiate lotion behind. 4th. Erysipelas is spreading less rapidly; it is of a paler color. The muriate of ammonia excites vomiting. Discontinue it. Aug. 5th. Pulse tranquil, skin cool, tongue still coated and brown, but less dry. Sulph. quinin. gr. j. three times a day. Patient vomited every time that he took it. Stomach rejects every thing. Omit sulph. quinin. Effervescing draught was given, but this also was rejected. Patient was directed to drink lemonade in very small quantities, and to avoid taking more than a tablespoonful of any thing at once into his stomach. A laxative enema was also directed. Erysipelas is fading away. Patient is very weak and languid. 6th. Irritability of stomach diminished. Continue the same regimen, with the addition of arrowroot in very small quantities. 8th. Patient is decidedly better. Pulse is slow, but regular, and increasing in strength. Tongue is becoming cleaner, and appetite is returning. Nourishing diet, with a small quantity of wine and porter. 12th. Patient has been attacked with iritis in the left eye. Apply ext. stramon. around the lids. The pupil became dilated after its application. 21st. Blisters have been applied behind the ear, and to the nape of the neck, and the extract of stramonium applied daily around the eye. The inflammation of the eye has abated. General health is rapidly improving. Sept. 1st. Discharged, cured.

CASE SIXTH.—*Delirium Tremens—treated by opium and cold affusion.*

Joshua Jones, sailor, born in New-York, aged thirty-nine years, admitted Aug. 5th, 1830. Addicted to immoderate use of ardent spirits. He came into the hospital to be treated for inflammation, and excoriation of the fore arms, occasioned by handling lime. He was affected with tremors when he came into the house, and foresaw that he was about to have an attack of "the horrors," with which he had before been affected several times. Pulse was full and frequent, but not hard; temperature of skin elevated. Cal. gr. x., jalap, gr. xv., tinct. opii, ʒj., sp. mindereri, ℥ss. at bedtime. 6th. Patient seemed better; nearly free from tremors. Ordered nourishing diet. Repeat draught at bedtime. 7th. Same report. 8th. Patient took his draught last evening, and, as far as could be ascertained, slept until two this morning, when he awoke delirious, muttering incoherently in a good-humored strain. Gave him, at 8 A. M., some beer, and ordered pills of opium gr. j., camphor gr. iij. He took six of these during the day, at intervals of about two hours. In the middle of the day he was sullen and silent, scarcely taking notice of any thing around him. Towards evening he jumped out of the window, and became very noisy and turbulent, so that it was necessary to confine him in a cell. At 10 P. M. he lay against the wall, partly under the bed, with his legs drawn under him, and with the foot and hand which were furthest from the wall, apparently attempting to ward off some terrific object. The perturbation of his mind was inconceivably great, his voice was indistinct, and his respiration accompanied with tracheal rattling. It did not appear likely that he would live till morning. While he was in this state, a pailful of cold water was slowly poured over his head, by which he was in some measure calmed, although he was still in violent agitation. He was now laid in bed, and secured by a sheet passed over his body, and under the bedstead. A draught of tinct. opii, ʒij., in some beer, had been given him early in the evening, and it was now repeated. He made violent resistance while the men were securing him in bed, but he soon afterwards became calm, and continued so during the night, although he did not sleep. 9th. 6 A. M. Found patient quiet in his bed, but still delirious, although he gave rational answers to some questions which were put to him. 7 P. M. Towards evening patient had again become extremely agitated; thought that a band of ruffians were approaching, with rifles and pistols, to shoot him; he begged his life with the utmost earnestness, then resigned himself to death, and then was very anxious to escape. Pulse was rather small, somewhat increased in frequency; skin warmer than natural. Patient passed urine and fæces this evening for the first time in thirty-six hours. A draught of ʒij. tinct. opium, in some beer, was now given, being the third which the patient had taken during the day. Patient was now chained by the ankle. 10 P. M. Patient was sitting quietly on edge of bed, with his elbows resting on his knees, still irrational, and having no disposition to sleep. A fourth draught, similar to those which he had taken before, was now administered. 10th. 6 A. M. Patient had slept considerably during the night, and appears much better this morning; he is now but slightly delirious, and seems like a person who has just recovered from a drunken fit. Directed a warm bath, and nourishing diet. 10 P. M. Patient has been quiet during the day, and is somewhat exhausted. Beer, animal food, &c. 21st. Patient has had diarrhœa, which has been restrained by opiates. Health slowly improving. 24th. Discharged, cured.

The case above related was one of extraordinary severity; and the patient was, perhaps, indebted for the preservation of his life, to the cold affusion which was resorted to during the height of his disease. At this time it would probably have been almost impossible to have induced him to take any medicine. In several obstinate cases of delirium tremens, cold affusions have been employed in the New-York Hospital with manifest benefit. Opium is, however, the remedy which is principally relied on. It has been given to the extent of five grains of opium, or ʒij. of the tincture, every two or three hours for several days together, and without any injurious consequences. The cases in which opium has been given in such large doses, have been those which were not complicated with inflammation, or congestion of the viscera.

CASE SEVENTH.—*Laceration of the Rectum by the pipe of an injecting syringe.*

Sylvester Hill, sailor, born in Connecticut, aged thirty-six years, admitted Aug. 6th, 1830. An enema was administered on the evening of his admission. The instrument used on the occasion was a very heavy pewter syringe with a curved pipe. The piston worked with a screw. The patient started while the injection was administered, and complained of severe pain in the region of the rectum. This continued for several days, when a lacerated portion of intestine, in a sloughy condition, was seen protruding at the anus. On the 18th Aug. the portion of intestine came away with a stool; it was about of the length and breadth of a man's hand. A large hemorrhoidal tumor was also observed at the verge of the anus. The patient had had repeated attacks of sickness during the last four or five years. His stomach and bowels had been much disordered. He came into the hospital to be treated for constipation. After the accident diarrhœa supervened, which was in some measure restrained by occasional doses of Dover's powder. Simple dressings were applied to the anus. Patient's strength supported by mild nutritious diet. After a few days, irritation became greatly diminished, and the patient's health and strength improved; but about the 10th of Sept. the bowels became greatly irritated, and were with difficulty quieted by anodynes given by the mouth, and by the anus. Tenesmus was very severe. Patient was much exhausted. Complained of severe pain in the region of the sacrum, and of tenderness of the nates at their inner part, when they were pressed upon. For a time there was considerable febrile excitement, during which the patient was subjected to low diet. When the excitement subsided, animal food was allowed, and opiates were given in proportion to the pain and irritation. Under this treatment the irritation about the rectum abated, and the patient's health slowly improved.

CASE EIGHTH.—*Diffused Aneurism of the Posterior Tibial Artery. Mortification of the foot.*

York Graham, sawyer, born in New-York, aged fifty-nine years, admitted Aug. 10th, 1830. At the time of his admission there was sphacelus of a considerable part of the right foot, with a prodigious swelling extending up to the knee. The patient was first conscious of swelling and throbbing in the leg about a year before his admission. From his account, it appeared that the swelling became diffuse about two months before his admission. On the same day that he was admitted, Dr. Cheesman amputated the thigh, by the circular operation, at a short distance above the knee. A considerable number of bleeding vessels were secured. The patient had taken fifty drops of the solution of sulphate of morphin, an hour before the operation. He bore the operation with remarkable fortitude. He took another anodyne draught at bedtime, and slept well. On examining the amputated leg, the swelling was found to be occasioned by a large diffused aneurism of the posterior tibial artery. For two or three weeks after the operation the patient appeared to be doing pretty well, but after that time a slough took place on the sacrum, attended with considerable fever, and constitutional irritation. The patient's strength became exhausted. Nourishing diet, with porter and wine, were given, but to no purpose. Death took place on the 7th of September. No remarkable appearances were observed in the post mortem examination, except that considerable ossification was found in the heart, and the extreme arteries.

CASE NINTH.—*Comminuted Fracture of the head of the Os Brachii, with delirium tremens. Fatal.*

Daniel Armstrong, a large and athletic seaman, of rather corpulent habit, twenty-seven years of age, was admitted into the hospital on the 26th of August, 1830. He had fallen from the mast of a vessel, upon his left shoulder. On moving the arm, crepitus was distinctly felt in the immediate neighborhood of the joint. There was considerable tumefaction about the shoulder. A compress was placed in the axilla, and the arm secured to the body by a bandage. Patient was very uneasy, and soon got the bandage loose. Patient was affected with tremors. Became quite delirious in the course of the day; was with difficulty kept in the room. Tinct. opii ʒj., was administered in the afternoon, and repeated after two hours, without any evident effect. Tinct. opii ʒiss., was given in the evening, with a glass of whiskey, and repeated after two or three hours. The patient remained awake all night, walking about the room, jumping on the beds, &c. 28th. 7 A. M. Delirium has increased. Patient appears to be in a good humor, but is very difficult to be restrained. He is determined to go out. His pulse is nearly natural in force, somewhat increased in frequency. His body is covered with profuse perspiration. Five draughts, each tinct. opii ʒij. sp. commun. ℥ij. were given during the day, but failed to produce sleep, or to effect any decided change in the symptoms. After breakfast he was taken to a cell, and chained by the ankle. He had no stool during the day. Four compound aloetic pills were given in the evening. 29th. Patient in same condition as yesterday. Had had no sleep. A dose of calomel and jalap was given in the morning, and four draughts each tinct. opii ʒij., spt. commun. ℥ij., given in the course of the day. Bowels were freely opened in the afternoon. 30th. Patient had some sleep during the night, and appears better this morning. Pulse is calm, skin cool. Delirium continues, but in a less degree. Three draughts similar to those which he had before taken, were given in the afternoon and evening. 31st. Patient has been restless during part of the night, but he has had some sleep. He is about in the same state as yesterday, except that his skin is rather cooler, and pulse feebler. Calomel ℈j. was given, with opii gr. iij., about noon, and two doses of opium, each gr. iij., in the evening. Sept. 1st. During the greater part of the night patient has been in an uneasy, and often interrupted sleep, attended with moaning and restlessness. He is quite drowsy this morning. Pulse rather feeble, skin cold. He is more rational. At noon a glass of spirits was given, in the evening three grains of opium. Bowels were freely open in the course of the day. 2d. Slept considerably during the night. Continues to be drowsy this morning; is easily awakened, but soon falls asleep again. Moans and mutters during sleep. Complains of sore throat. On examining the fauces, no morbid appearance was detected. Rub neck with volatile liniment. Apply flannel around it. Patient removed to-day from his cell, and carried back to his ward. 4th. Since last report patient has been stupid and semi-comatose, pupils contracted, sleep restless and disturbed, voice hoarse and feeble. Still complains of soreness of throat. This evening delirium returned. Patient was disposed to throw himself from his bed, so that it became necessary to lay him on the floor. 5th. Delirium increased. Countenance has a wild and agitated appearance. Tongue is brown, dry, and shining in the middle, clean at the edges. Patient is too feeble to get up, but he moves himself about in a supine position. Voids his fæces wherever he may chance to be when he feels the inclination. At 1 P. M. commenced giving him, every hour, a table-spoonful of the following mixture: ℞. tinct. opii, tinct. valerian. ammoniat, āā ʒj., tinct. lupulin. ʒss., tinct. cinchon. ʒvss. m.

6th. 7 A. M. Pulse is sinking, respiration more laborious and oppressed. Patient is aroused with difficulty. 11 A. M. Died.

Autopsy six hours after death. Body stout and robust. Adipose tissue loaded with fat. On opening the cavity of the cranium, and raising the dura mater, a considerable quantity of serum was found effused between the arachnoid and pia mater. The vessels of the pia mater were gorged with blood; the hemispheres of the cerebrum were pretty firmly adherent together. ʒij. or iij. serum were found in the ventricles, on the sides of which several turgid veins were seen. The vessels of the velum interpositum were much gorged with blood. The cerebrum was of a firm consistence; the cerebellum much softer. Cavity of the thorax, and the pericardium, contained a very small quantity of serum. The heart was large, and of a pale color; its veins turgid with blood. The lungs were healthy, and free from adhesions. The mucous membrane of the stomach and intestines deeply injected. Liver large, and of a yellowish color. When cut into, no blood issued from its divided vessels. On examining the left shoulder, the head of the os brachii was found to have been broken into a number of fragments.

CASE TENTH.—*Phagedenic Ulcer of the Penis and bubo of the same character; treated by nitrate of silver, and narcotics.*

William Van Brienne, sailor, born in Holland, aged twenty-six years, admitted 22d of June, 1830. Phimosis, with great tumefaction, and severe inflammation of the prepuce.

He had chancres, which made their appearance about a week before his admission. Two days before he came into the hospital he applied yellow wash to them, and phimosis followed on the same day. Ordered antimonial solution internally, and cold saturnine poultices to the part. 25th. Inflammation has almost entirely subsided. Prepuce can be drawn back without difficulty, discovering several deep and painful sores on the prepuce and corona glandis, and one on the glans involving part of the orifice of the urethra; there is also a puriform discharge from the urethra. 28th. Patient complains of the poultice occasioning painful erections. Substitute a wash of infusion of opium. 29th. Opiate lotion occasions heat, and increase of pain. Discontinue it. Apply solution of superacetate of lead, gr. ij. to ℥j. July 3d. Saturnine lotion has been continued, but sores are growing deeper, and more painful. Antimonial solution has been given internally. Continue it. Omit saturnine lotion. Apply solution of nitrate of silver, gr. iij. to ℥j. extract of hyoscyamus, gr. x., to be taken at bedtime. 4th. Lotion of nitrate of silver excites some pain. Substitute a weaker solution, viz. gr. j. to ℥j., ext. hyoscyamus, gr. xij., at bedtime. 5th. Sores less painful, and have ceased to spread. Continue lotion. Ext. hyoscyamus, gr. viij. in the morning. 17th. Hyoscyamus has been discontinued for several days past. A small bubo, which the patient had at the time of his admission, suppurated, and was opened a few days ago, and, day before yesterday, it began to assume a phagedenic character, being painful, and rapidly spreading. Ordered this evening six grains ext. hyoscyamus, and lotion of nitrate of silver, to the ulcer in the groin, as well as to those on the penis, which are healing under its influence. 20th. Ulceration still extending. Pain severe. Apply a yeast poultice. Omit hyoscyamus. Give opium, gr. j., four times a day. 21st. Ulcer touched with solid nitrate of silver; the application was very painful, but after a few minutes the pain was diminished. 22d. Ulcer dressed with stramonium ointment. Its progress appears to have been arrested. 23d. Pain has ceased, but patient complains of numbness in the limb. Omit ointment. Dress sore with lint, wet with solution of nitrate of silver. Touch it occasionally with solid nitrate of silver. Opiates internally whenever pain becomes severe.

August 6th.—Under this treatment the sore is healing kindly. The opiates were omitted after a few days. 20th. For several weeks past the patient has had a slight fever, with evening exacerbations. During the greater part of this time he has complained of no pain or local uneasiness. For several days past he has taken sulph. quinin. in doses of one grain, three times a day. He began to take it several weeks ago, but it produced pain in the stomach, which was increased by pressure, together with increased heat of the skin covering the abdomen. The sulph. quinin. was then discontinued. Patient was cupped over the epigastrium, and confined to low diet, and by this means was soon relieved of the pain, &c. Since he resumed the use of the quinine he has experienced no unpleasant effects from it. Yesterday he took a grain every two hours. This morning he passed a large quantity of urine, about half of which consisted of a very thick ropy fluid, which did not coagulate by heat, but which deposited copious flakes when treated with a solution of muriate of mercury. Coagulation also took place, when an acid was added, and it was then exposed to heat. The urine contained, also, a considerable quantity of earthy matter. 23d. Patient has been free from fever since the last report. His urine has not deposited the ropy sediment which it did on the 20th.; but when evaporated to dryness, has left a considerable quantity of earthy matter.

After this time, the patient was affected with vertigo when he went out into the open air. It appeared to be immediately occasioned by the light. This symptom was removed by a mild tonic regimen, and the patient was discharged, cured.

The above is an instance of a severe venereal affection, which was cured without the use of mercury externally or internally, with the exception of the yellow wash, which was employed but one day, and the use of which appears to have given rise to phimosis. It is probable that in cases of this kind, mercury would be injurious in any form. When venereal ulcers are characterized by such extreme irritability, narcotics are the remedies which are principally to be relied on.

The peculiar discharge of urine, containing so large a quantity of albumen, succeeding a fever, of which it appears to have been critical, is also worthy of remark in this case. The albumen in this instance was probably held in solution by an alkali, as it did not coagulate by heat, until an acid was added.

CASE ELEVENTH.—*Excrescences on the Prepuce and Glans Penis, following gonorrhœa. Treated by excision and escharotics.*

Lambert Carroll, seaman, aged twenty-seven, admitted July 17th, 1830. Carnucular excrescences covering the whole prepuce, and nearly concealing the glans penis, the whole mass being not unlike a cauliflower in appearance. The patient had gonorrhœa about eight months before his admission; the discharge was occasionally arrested while he was under medical treatment, and afterwards broke out again. About five months after the commencement of the gonorrhœa, the carnucles began to appear on the prepuce, and continually increased until he came into the hospital. The gonorrhœal discharge ceased about the time of their appearance. When he entered the hospital, the prepuce had ulcerated, and the glans penis came through the opening at the side. In order to liberate it, an incision was made in the prepuce with a bistoury; the hemorrhage which followed was considerable, and was not easily arrested. The patient is of bad constitution, and much debilitated. (Nourishing diet, porter, &c. Extremity of penis eveloped in a poultice.)

August 25th.—Patient's health has much improved. To-day Dr. Cheesman excised the greater part of the prepuce with its excrescences; a few small excrescences, near and on the glans, were left behind.

Sept. 10th.—The wound has cicatrized. Apply to the remaining carnucles a powder, consisting of equal parts of pulv. sabin. and acet. cupri. This application was continued for several weeks, at the end of which time the excrescences had disappeared, and the patient was discharged, cured.

CASE TWELFTH.—*Injury of the Head, occasioned by a fall. Treated by copious depletion.*

William Pushby, a stout boy of thirteen years of age, was admitted on the 22d of July, 1830. He had fallen, at about six P. M., into the hold of a vessel twenty-two feet deep; he struck the back part of his head, was unable to walk afterwards; complained of pain in his head. He vomited about fifteen minutes after the accident. He was brought to the hospital at seven P. M. At this time he was comatose; when he was aroused, he looked wildly, uttered one or two words, and then sunk again into a state of stupor. There was hemorrhage from within the left ear. The pulse was very slow and feeble; the skin cool, but not cold. Pupils moderately contracted, and sluggish in their motions. There was a tumor, caused by effusion, on the back part of the head. Patient vomited again soon after he was brought into the hospital; the matter vomited was small in quantity, and consisted of half-digested meat, and other food. At 9 P. M. a stimulating injection was given, and after an hour repeated. After the second injection, patient had a stool. He then took cal. gr. viij.; jalap, gr. xv. At 10½ P. M. reaction had commenced.

23d, 1 A. M.—Skin very hot and dry, pulse much more frequent than before, rather small and difficult of compression. V. S. ad ℥xx. After bleeding, the pulse was softer, and the skin cooler. Apply cloths, wet with cold water, to the head. 6 A. M. Skin cool, pulse moderate, patient more sensible than the evening before. The cathartic had operated but once.

1 P. M. Pulse increased in hardness and frequency. Repeat V. S. ad ℥ xx. 9 P. M. The excitement, which had been subdued by the venesection, returned. V. S. ad ℥ xvi. At the close of the bleeding, the skin became cool, pulse soft, and a sweat broke out on the forehead. The patient appeared more sensible than at any time since he came into the hospital. Sulph. magnes. ℥ i. in two doses.

24th, 6 A. M.—The pulse is still moderate in force and hardness, and the skin is cool; the pupils move more actively; the patient talks more rationally, and appears more lively. The salts have operated four or five times during the night. Ordered tart. ant. gr. $\frac{1}{8}$ every two hours. 8 P. M. The patient continues to improve, although he still complains of pain in the head. Tongue has a slight white fur. The pulse has increased in frequency, but is more easily compressible. Temperature of skin somewhat elevated. Fourteen leeches were applied to the left temple, and to the neck; a blister to the inside of the left leg.

25th.—Patient was much benefited by the leeches; he is quite sensible to-day, and is able to walk about. Pulse is full and compressible. Patient asked for something to eat, was directed to keep quiet, and eat nothing. Drink tamarind water. Continue antimonial solution.

26th.—Continues to improve.

28th.—Discharged, in good health and spirits.

CASE THIRTEENTH.—*Fracture of the Leg, followed by Delirium Tremens, Dysentery, Hemoptysis, and Stercoraceous Vomiting.*

Joseph Maxwell, leather-dresser, born in New-York, aged fifty-six years, admitted 28th August, 1830. Fracture of bones of right leg below the middle, occasioned by a fall on the floor. The same leg had been broken about a year and a half before. The patient had been addicted to the free use of alcoholic drinks, and was affected with universal tremors when he came into the hospital. An anodyne draught was administered in the evening. On the following day the bowels were freely evacuated by a dose of sulph. magnes. In the afternoon the patient became delirious, the tremors were severe and general, pulse small and frequent. Three doses of tinct. opii., each ʒi. were given in combination with spt. mindereri, at intervals of two or three hours. During the night the delirium increased to such a degree that it became necessary to tie the patient, to prevent him from throwing himself out of the bed, and injuring himself. 30th, 8 A. M. Violent delirium, with universal tremors. Great agitation of mind. ℞ tinct. opii. ʒ ij. spt. commun. ℥ ij. 11 A. M. Repeat draught. 1 P. M. The patient fell asleep after the second draught, but soon after awoke, and a third draught was given. He fell into a profound sleep, which continued almost uninterruptedly for about eighteen hours. 31st, 6 A. M. The patient has just awaked from his sleep, and appears tranquil, and almost entirely rational. Two compound aloetic pills were given, which operated very freely on his bowels in the afternoon. To restrain the evacuations, which had been too free, fifteen grains of Dover's powder were given in the early part of the evening. At 10 P. M. tinct. opii. ʒ i.

Sept. 1st.—The patient has slept pretty well during the night, and appears to be very comfortable this morning. 4th. Bandages and splints applied to the leg. 8th. For several days past the patient has had frequent evacuations from his bowels, mingled with blood, attended with tormina and tenesmus. Pulse rather feeble; tongue furred in the middle, clean near the edges, and excoriated at the sides. He has been restricted to a diet of arrow-root and gruel, and has taken Dover's powder at night. In the beginning he took a full dose of calomel, succeeded by an anodyne injection, which gave him great relief. He was also cupped over the abdomen, and derived benefit from the operation. His evacuations are diminished in frequency, and improved in quality, although they are still very fetid, and contain a small quantity of dark coagulated blood. 11th. The evacuations from the bowels have become nearly natural. The patient was attacked this evening with hemoptysis: he coughed up about ℥ vj. of blood in a few minutes. Pills, containing superacetate of lead gr. j., and opium gr. $\frac{1}{4}$, were ordered to be given every hour. Cool acidulous drinks. Soon after taking the first pill, the bloody expectoration ceased, and did not return. The cough still continued to be troublesome. 16th. The pills of superacetate of lead and opium were gradually discontinued. There has been no return of hemorrhage. Cough continues, and is attended with mucous expectoration. Obscure pectoriloquy, with mucous rale under the left clavicle. Demulcents and anodynes. 22d. Since the last report the patient has once or twice coughed up a very small quantity of blood. His bowels have been tardy, and injections have been administered every two or three days, but have brought away but little fœces. To-day, after a fit of coughing, the patient vomited a pint cup full of solid fœces. A few days after this, he died. For about a week before his death, generous diet was allowed, and porter ad libitum, but they appeared to exert no influence in preventing him from sinking.

There are several interesting circumstances relating to this case. 1st. The fracture of the bones of the leg, occasioned simply by a fall on the floor. 2d. The variety of severe and dangerous symptoms excited, in a constitution broken down by intemperance, by an accident which occasions so little disturbance in a healthy constitution. Two days before the patient was admitted into the hospital, another old man of intemperate habits was brought in, with fracture of the thigh, and contusion about the pelvis. The real injury was not very severe, but there was considerable constitutional disturbance, and the man became slightly delirious, was affected with a troublesome cough, and died a fortnight after the accident. 3d. It is worthy of remark, that the delirium tremens, which was very severe and violent in its character, was so readily checked by anodynes. Those cases of the disease which are open and violent from the beginning, appear to be more under the control of remedies, than those which come on slowly and insidiously. Cases of the latter description sometimes require enormous doses of opium in order to produce sleep, which has been justly considered as the crisis* of the disease.

CASE FOURTEENTH.—*Phlegmonous Erysipelas of the Leg; treated by incisions.*

Archibald Justice, born in Scotland, aged thirty-four years, admitted July 13th, 1830. Extensive ulcers of the legs, of a deep red color, foul, and covered with maggots. The ulcers originated from a contusion, which occurred about a year before his admission. Warm bath. Vermin destroyed by a solution of chloride of lime, ʒ ij. to ℥ viij. of water. A lotion was afterwards applied to the sores, consisting of chloride of lime ʒ ij. water O j. After two or three days, the sores assumed a healthy appearance. They were then dressed with simple cerate, and bandaged.

August 5th.—The sores have been rapidly healing. The patient has been attacked to-day with chills, succeeded by fever, with swelling and tenderness of several of the lower order of inguinal glands on the left side. The thigh is hot to the touch. A saline cathartic. 6th. Erysipelas is developed on the left leg. Apply opiate infusion. ℞ Submur. hyd. gr. x. ipecac.

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* See Goeden von dem Delirium Tremens.

gr. xxv. After two hours, give sulph. magnes. ℥i. An emetic and cathartic effect were produced. 7th. Repeat sulph. mag. Red lines are observed in the course of the lymphatics on the inside of the thigh. 8th. Apply a blister on the inside of the thigh. Considerable swelling of the lower part of the leg, with apparent fluctuation. A small incision was made, but no matter appeared. 9th. Inflammation of the absorbents of the thigh has in a great measure subsided. The leg is enormously swollen; the skin is of a deep red color, tense, and painful; the general surface of the body is hot and dry; the pulse somewhat excited. Six or eight incisions, each about one and a half inches in length, were made down to the fascia. They did not bleed very profusely, but the patient experienced relief from them. Tart. ant. gr. ¼ every two hours. 10th. Pain and tension in the leg are much relieved since the incisions were made. The patient appears rather feeble. Substitute effervescing draught for tart. ant. 16th. Incisions have assumed a healthy granulating appearance. The swelling of the leg has in a great measure subsided. No suppuration has taken place in the limb, except on the dorsum of the foot, near the toes, where a puncture has been made to-day, and about two ounces of imperfectly formed pus have been evacuated. 18th. A roller was applied to the leg. The incisions readily healed, but the limb remained somewhat swollen for a considerable time afterwards.

CASE FIFTEENTH.—*Urinary Infiltration. Sloughing of the Scrotum.*

James Henry, weaver, born in Ireland, aged thirty-two, admitted August 24th, 1830. Scrotum much swollen, and pitting upon pressure. A spot on its left side of a livid color. A large and deep wound by the right side of the anus. Countenance expressive of great prostration. The account which he gave of himself was as follows: A week before his admission, he complained of pain by the side of the anus, which grew worse and worse for three days. On the second day the part began to swell. On the fourth day, a physician in New-Jersey, where he lived, opened the tumor at the upper part, and about four ounces of matter were discharged. The next day he made an opening at the lower part, and on the following day he united the two incisions. On the fifth day, viz. the third before his admission, retention of urine came on, and was allowed to continue thirty-six hours before the catheter was introduced. The quantity of urine then drawn off was about half a gallon. The catheter was afterwards introduced two or three times a day.

Soon after the retention of urine came on, the scrotum began to swell.

The day after his admission, the portion of scrotum above mentioned as of a livid color, sloughed, leaving an opening nearly an inch in diameter, which gave issue to a semipurulent fluid, having the combined odor of wine and of gangrene. From that time the swelling of the scrotum began to subside, and at the end of three or four days, the discharge had much diminished in quantity, and had lost its unpleasant odor. The sphacelated cellular membrane had been discharged, and the ulcer presented a healthy appearance. The patient soon regained the power of voiding his urine. Nourishing diet was given, and opiates at night. Sept. 1st. Health much improved. 16th. Sores have nearly healed. A few days afterwards he was discharged, cured.

CASE SIXTEENH.—*Laceration of the Spleen, Kidney, Stomach, and Colon.*

John Deloray, aged forty years, was brought to the hospital on the 8th September, 1830, at about 11 A. M. He had been run over a short time before by a butcher's cart. Pulse small and feeble; general prostration; great tenderness in the left hypochondrium. Patient is able to explain his present feelings, but has no recollection of the manner in which he was hurt. Cordial and anodyne draughts were given, and warm fomentations applied to the abdomen, and to the feet. No reaction came on. In the afternoon the patient passed bloody urine. The blood was thoroughly mingled with the urine, so as to form a homogeneous fluid. Died at about 10 P. M.

Autopsy. Sept. 9th, at 12 M., 14 hours after death. Three or four pints of uncoagulated blood were found in the cavity of the abdomen. The peritoneal coat of the stomach was lacerated in two places near the larger extremity. The laceration did not extend to the inner coat. The peritoneal coat of the descending portion of the colon, was also lacerated. The spleen was very extensively, and deeply lacerated, at its outer and inner surface. The left kidney was also lacerated, to a considerable extent, on its anterior surface.

CASE SEVENTEENTH.—*Laceration of the Brain.*

John Reardon, born in Ireland, aged about forty years, admitted September 14th, 1830. Injury of the head, with contusion, and slight laceration of the scalp over the right parietal bone, from the fall of a spar upon it. The accident occurred at 1 P. M., and he was brought into the hospital about two hours afterwards. At that time there was considerable tumefaction of the scalp at the part where the blow had been received. There were marks of ecchymosis in the upper eyelid of the right side. The right pupil was much dilated, and immovable, the left moved freely. The skin was rather cool. Pulse about seventy, somewhat hard. Perspiration not much affected. The patient groaned constantly, and complained of pain in the head. He was able to give correct answers to questions which were put to him. In the course of the afternoon he became less sensible. In the evening his respiration was attended with rattling in the throat. No reaction came on. During the night he was very restless, constantly muttering and moaning, and throwing his arms about. He spit blood several times. Some reaction of the vascular system. Patient bathed in perspiration. 15th. Insensibility rather on the increase. Respiration more oppressed. Vascular reaction more evident. Pulse frequent. Skin hot and dry. Right pupil remained immovably dilated. Mouth drawn somewhat to the right side. Left arm appears partially paralyzed. Between six and seven, P. M. the patient becoming progressively worse, Dr. Mott trephined the skull, at a part where the bone had been denuded by the accident, to a very small extent. The scalp had been incised in the form of the letter T, several hours before, to ascertain whether a fracture existed; none was found. On removing a portion of the bone, a thin stratum of coagulated blood was found at the lower edge of the perforation, being apparently the commencement of a more extensive coagulum, which extended downward towards the base. It was not deemed proper to pursue the operation farther. 16th. Patient still continues to grow worse; he has become so insensible that he cannot be aroused. Breathing somewhat stertorous. Pulse very frequent, but has not much force. Skin hot and dry. V. S. ad ℥xij. No very evident effect was produced by the venesection, except that the pulse became more frequent. 17th. 11 A. M. Died.

On examination after death, a fracture was found to extend along the base of the cranium nearly its whole length. The lower portion of the anterior, and middle lobes of the cerebrum on the right side, and also of the cerebellum, were lacerated by the force of the concussion, and extensive coagula of blood were found at the base of the brain. The cavity which lodges the middle lobe of the cerebrum on the right side, was almost entirely filled with coagulated blood.

CASE EIGHTEENTH.—*Amputation of the Thigh, followed by secondary hemorrhage. Femoral artery tied in several places.*

John Shannon, aged about thirty years. Came into th hospital on account of a disease in the knee joint of several years standing. He had been addicted to intemperate habits. On the 25th of September, Dr. Mott amputated the thigh a short distance above the knee, by the double flap operation. Every thing went on favorably after the operation. The patient, however, complained of severe pain in the stump recurring every afternoon, for which he took anodynes. The stump was dressed on the seventh day, and was found to be nearly healed. No untoward circumstance occurred until the morning of the 6th of October, (the 12th day from the operation,) when the patient suddenly coughed, and sneezed violently at the same time, and a gush of arterial blood, to the amount of three or four ounces, took place from the stump. The tourniquet was applied, so as to compress the femoral artery, and the hemorrhage was thus arrested for the time. After an hour or two the tourniquet was removed, and the hemorrhage did not recur till the night of the 7th, when about the same quantity of blood was lost as before, and the hemorrhage was temporarily arrested in the same way. At midnight, Dr. Mott tied the femoral artery three or four inches below Poupart's ligament. He tied the artery in two places, and divided it in the intervening space. On the morning of the eighth, a new hemorrhage took place to the amount of about eight ounces. It was arrested by pressure in the groin. At 11 A. M. a consultation of the surgeons was held, when it was determined to tie the femoral artery above the profunda, which Dr. Mott accordingly did. On the morning of the ninth, a hemorrhage again took place from the stump to the amount of about five or six ounces. Pressure on the artery, as high in the groin as it could be felt, appeared to exert no control over the hemorrhage, but it soon ceased spontaneously. Dr. Mott directed, if the hemorrhage should be renewed, that a tourniquet should be applied around the middle of the thigh, with the view of compressing the arterial branches in the posterior part of the limb. Early on the morning of the tenth, a slight hemorrhage occurred, which was not arrested by the tourniquet. Spasms came on in the stump, and the hemorrhage became more profuse, amounting to about eight ounces. The spasms were frequently repeated. The pulse became small and feeble, the skin cold and moist, the countenance had a haggard expression, and there was occasional hiccup. On dressing the stump, the angles of the wound, which had been united, were found to have been pressed asunder by coagula of blood, and had a ragged spongy appearance. The wound was dressed with Peruvian ointment. Brandy toddy was given to the patient in the morning, but his stomach soon revolted against it. A sinapism was applied over the epigastrium, but he could not long bear it. Porter and lime water were given in the evening, and a blister applied over the epigastrium. The pulse gradually became fuller and stronger, the irritability of the stomach ceased, and the coldness of the skin diminished. 11th. Noon. There has been a very slight oozing of blood, but no considerable hemorrhage. The symptoms have all become more favorable. The wound has been dressed this morning with pure balsam of Peru. 22d. No hemorrhage has since occurred. The ligatures which were passed around the femoral artery on the night of the 7th, both came away this morning with the dressings. 25th. The ligature which was applied around the artery, in the groin, came away this morning. In the early part of November the patient left the hospital, the wound being nearly healed.

The hemorrhageous disposition, in this case, was very remarkable, and appears to have affected all the arteries of the stump. The hemorrhage which occurred after the inguinal artery was tied, probably proceeded from the branches of the gluteal and ischiatic arteries; and, on this supposition, it was Dr. Mott's intention to have secured the primitive iliac artery, if the patient had not been so much prostrated by the last hemorrhage as to have rendered any operation unjustifiable at that time. The recovery of the patient was contrary to the prognosis of all the attending surgeons.

CASE NINETEENTH.—*Retention of Urine. Urethra opened by incision.*

Joseph Santo, a negro, of athletic constitution, born in the West Indies, aged twenty-seven, admitted September 7th, 1830. He had been affected with retention of urine for three days before he came into the hospital, during the whole of which time he had passed but a few drops. The retention was occasioned by stricture originating in a gonorrhœal affection. He came into the hospital in a state of extreme suffering, so much so that he could not keep himself for a moment in one posture. There was considerable fulness and tenderness of the hypogastric region. On attempting to pass a catheter, a stricture was found near the bulbous portion of the urethra. Several instruments of different kinds and sizes were passed down to the stricture, but could not be made to pass through it. The patient was then bled from a large orifice, in an erect posture, to the amount of about fifty ounces. This produced some relaxation of the system, but no deliquium. Ineffectual attempts were again made to introduce bougies through the stricture. The patient was then placed in a warm bath, and kept in it about half an hour. On coming out of it the muriated tincture of iron was given in doses of ten drops, every ten minutes, for an hour. At the end of this time he began to void a small quantity of urine per saltum. The efforts were attended with great pain, but considerable relief was experienced, although the quantity voided was but small. An enema was then given, which operated freely on the bowels, and the patient was enabled to void his urine in larger quantities. An anodyne enema was ordered, but through the misunderstanding of the nurse was not given. Tart. ant. gr. $\frac{1}{4}$, was given every fifteen minutes for about two hours. In the course of the afternoon he passed a large quantity of urine, and felt completely relieved. The passage of the urine was per saltum, and attended with a sense of scalding. According to the patient's account, neither the muriated tincture of iron, nor the tartarized antimony which he took, produced nausea.

Sept. 8th.—There is some tenderness remaining in the hypogastric region, and there is a sensation of scalding in making water, but the patient is able to evacuate his bladder. 16th. Attempts to introduce the smallest bougies have still been ineffectual, and the patient has yet very great difficulty in voiding his urine. He pulls his hair, grinds his teeth, and pulls his penis with vehemence when he makes the attempt, and it flows only by drops. He is in some measure relieved when he takes the muriated tincture of iron. 20th. A caustic bougie was introduced down to the stricture. The patient voided his urine better after it than he had done before. 25th. There is still great difficulty in passing urine; no instrument can be made to enter the stricture. Repeat the introduction of a caustic bougie. 27th. After the last application of the caustic, no remarkable change occurred until to-day, when the patient went out on liberty; he returned in the evening with entire retention, and remained for several hours in the most inexpressible agony. He was put into a warm bath, took muriated tincture of iron ten drops every ten minutes for an hour, had a caustic bougie passed down to the stricture, a large laxative enema, succeeded by an anodyne enema, and took tinct. opii, gtt. c. repeated after half an hour, and all with little or no benefit. He then took tart. ant. gr. ss. every fifteen minutes, until he vomited, when he began to pass a small quantity of urine, and became gradually relieved, and then fell asleep. 30th. Since the last report there has been some improvement, but the patient still experiences great difficulty in making water, and there is considerable tenderness of the hypogastrium.

A few days afterwards Dr. Mott made an incision in the perineum, laid open the stricture, and introduced an elastic catheter into the bladder. The patient wore it for about a fortnight, and, after it was removed, an elastic bougie was daily introduced, by which means the urethra was kept permeable, while the incision in the perineum was allowed to heal.

CASE TWENTIETH.—*Ununited fracture of the Os Brachii. A seton introduced without success. Union effected by sawing off the ends of the bone.*

James Norton, a middle-aged man, of good constitution, admitted April 5th, 1830. Ununited fracture of the os brachii. It was broken in the middle of January. Splints were applied until the time of his admission. About the 10th of April, Dr. Mott passed a seton between the fractured ends, and Kent's apparatus for fractures of the arm was applied, by means of which the arm was kept at rest in a flexed position. Sept. 28th. No union having taken place, Dr. Mott withdrew the seton a few days ago. To-day he made an incision on the external part of the arm down to the upper portion of the bone, the extremity of which he detached from the surrounding parts; he then passed a chain saw under it, and sawed it off. The lower portion of the bone, which lay on the inside, was then laid bare with considerable difficulty, owing to its depth, and to the vicinity of important parts, and the chain saw was passed under it; but in attempting to saw it off, the saw was broken. The extremity of the bone was then partly sawed off by means of a rotatory saw, and of Hay's saw, and partly broken off with bone nippers. It was then raised up, and sawed smoothly off with a metacarpal saw. The whole length of bone removed was more than two inches. The extremities of the bone were then perforated with a drill, and united by means of well-annealed iron wire, the ends of which were passed through a double canula, and secured without. The edges of the wound were brought together with sutures and adhesive straps, and Kent's apparatus again applied. Two or three weeks after the operation, the wire came away, the arm became gradually stronger, and on the 15th of December, when he was discharged, the union was complete. He had not yet, however, regained the full use of his arm, as the muscles were very much relaxed by the shortening of the limb.

ART. II.—*Inquiries and observations on the Bilious Remitting Fevers of Michigan.* *By* J. V. D. SUTPHEN, M. D.

(*Continued from page* 95.)

PART II.—FEVERS.

Lake Fever.—This fever, in the territory of Michigan, is what is termed a bilious fever, although it is somewhat different from this disease as seen in the middle and eastern states. I shall divide the symptoms into two kinds, as they appear before and after the patient loaths his food, and give them in order, as they have come under my observation.

First. A paleness and yellowness of the skin and eyes, and a want of color in the lips; dryness of the mouth, skin, and nasal canals; dull, heavy pain in the loins; numbness, prickling, and itching of the nates, thighs, legs, and feet; increased appetite for food; slight darting or shooting pains in the eyes, with an uneasy motion of them; constipation; urine high colored; listlessness and inactivity. In this state a patient may remain for days or weeks, and even until the approach of cool weather, when a few black fetid stools, either spontaneous or procured by art, relieve all his difficulties, and restore his health. But very commonly the symptoms progress from bad to worse, such as—

Second. Nausea; hot, dry skin; yellowish-white sliny, or dry yellow tongue; violent pain in the loins, occiput, and eyes; griping pains in the abdomen; extremely obstinate constipation; pulse quick, sharp, and frequent; tenderness and tumefaction of the precordia and right hypochondrium; breathing anxious, hurried, and offensive; violent pain in the stomach; retching and vomiting; a deep orange color of the skin, eyes, and nails; fetid clammy sweats, staining the bed and body linen; a dark circle round the eyes; delirium; inability to swallow; loose green fetid stools; hiccup; after which, death soon closes the scene.

Every case cannot be expected to present the whole train of symptoms to which any particular disease is occasionally subject. The foregoing is a compilation from a variety of cases, of different degrees of severity, and under different circumstances.

The grand leading symptoms, however, are uniformly the same. The pulse is not much to be depended upon in the decision of any point where other circumstances are not in unison.

In some cases the disease affects more particularly the liver, in others the stomach and intestines, and in others the head, &c.

The fever is a remittent. From its first attack it very generally runs (if severe) forty-eight or seventy-two hours before we can discover the least remission, and even then it is so obscure as not to attract the notice of patient or friends.

This remission is of very short duration ; I have repeatedly seen a renewal of the paroxysm in fifteen or twenty minutes from the first appearance of a remission. After the third day the remissions are remarkably irregular, sometimes occurring twice in twenty-four, and not unfrequently but once in forty-eight hours, until the approach of the ninth or eleventh day, when, if the crisis is favorable, paroxysms of increased violence are followed by a complete intermission ; after this it commonly becomes an intermittent of the tertian or quotidian type, of an obstinate character. This obtains, where no remedial agents, or those only of the simplest kind, are used ; but if the bowels have been thoroughly evacuated, which can only be known by a decided relief of pain in the loins, the disease puts on a milder aspect, remissions are more regular, and a crisis is formed on the third or fifth day ; but if the intestines cannot be moved during the first days of the disease, according to the obstinacy of the constipation will be the danger of the issue. In case we can procure a plentiful evacuation, of a scybalous character, dark, bottle-green, or black, and extremely fetid, on the first, second, or third day, the fever immediately forms a crisis, and leaves the patient free from all danger, and in possession of much more strength than would have been supposed from his former symptoms and situation.

As it is not my intention to give an elaborate treatise upon this subject, the reader will not expect all the minutiæ of a Cullen or Rush. My object is only to throw what light can be obtained upon the subject of fevers.

The first grand indication in the treatment of this disease, is to cleanse the primæ viæ. To do this effectually, cathartics are far preferable to emetics. If other means have been used to no effect, and the pulse will admit of it, I have given a cathartic of thirty grains of calomel, and in an hour have exhibited an enema of one quart of a strong decoction of the elm bark, to which have been added three or four drachms of powdered rhubarb; then, by bleeding nearly to fainting, the effect has been decided, relief perfect, and the patient rescued from danger.

If the intestines are thoroughly evacuated of their contents, the discharges will be scybalous, black, and fetid, beyond comparison. If nothing of this kind appears, the patient obtains little or no relief, but still in opening the bowels we advance a material step towards the accomplishment of our ultimate object, which may be attained by perseverance in the use of cathartics and enemata. Emetics may be used with some prospect of advantage where the stomach abounds with crudities, and where there exists an inactivity of the liver; but of the whole catalogue of emetics, we should avoid the use of the tartrate of antimony, unless particular circumstances indicate it.

The great difficulty is situated in the colon, and if we succeed in removing a mass of indurated feces, before inflammation, or a determination of blood has taken place to some particular part, and become established, the fever subsides at once; but, on the contrary, the disease will be obstinate, lingering, and doubtful in its issue, if this point is neglected, or only partially attended to. It is true, we may possibly reduce the fever, or it may run through the time of its natural duration, and form a favorable crisis, even while the colon remains obstructed; but the consequence is, that the patient lingers between health and disease, he has no appetite, his skin and eyes are yellow, he complains of pain and weakness in the loins, general lassitude, night sweats, uneasy sleep, frightful dreams, an unnatural feeling and noise in his head, tenderness of the abdomen, vertigo, faintness, numbness of the lower extremities, and irritability of the nervous system; his tongue is yellow, his mind dejected, and he is in continual danger of relapse. In this way he may remain for weeks, apparently relapsing into disease rather than regaining his health. Now clear the colon, and restore its tone of action, and his improvement in the short space of forty-eight hours will astonish all but those who understand the cause.

How frequently do we hear convalescents complaining of more or less of these symptoms, and how commonly do they give way to a few active cathartics. It must be understood, however, that we have an object to gain, for which we exhibit cathartics; if the point is not gained by the operation of one, it may be by two, if still we fail, the tenth may be effectual. It has been rather a common thing in my practice while in this territory, that from three to six cathartics were given in succession before they executed my design, unless the most energetic plan was adopted from the first. In an obstinate case, we should by all means employ enemata in conjunction with cathartics; indeed, we can oftentimes relieve the bowels in a few hours by their use, after the most powerful cathartics have failed to operate. When we have effected our purpose, we know it by a decided relief of the pain in the loins, following immediately upon the before mentioned black fetid stools.

These stools cannot be the effect of medicines taken, as many believe. Calomel no doubt will render the evacuations black, but it gives no unnatural fetor; and, as evidence of a decided kind, the same stools may be, and have been repeatedly procured in my practice, with the same immediate benefit, by the use of injections, without the aid of a single article taken by the mouth. For this purpose, I have used them of a simple kind, (as salt and water,) and compounded, as directed by the books, and I never could discover the least shade of difference. I have procured them with a single dose of rhubarb, and, again, I have been under the necessity of using every means in my power, besides the exhibition of the most powerful cathartics, in repeated doses, before they could be dislodged; but they were universally the same, by whatever means obtained.

Those of a relaxed habit, who lead sedentary lives; those who are intemperate in the use of ardent spirits; those employed much through the heat of the day, and perspire very freely, or who are exposed to the night air, and consequently deprived of their natural rest, or who live principally on fish and vegetables; those subject to low spirits; those who suddenly quit an old established habit of any kind; those afflicted with dyspepsia; and, indeed, all who do not attend to keeping their bowels free, are particularly liable to this disease; and if a person who has just arrived in the territory from the middle or eastern states is not very particular to avoid every cause, and, above all, *costiveness*, he will certainly be attacked.

In the management of this fever, I have found no remedial agent more valuable than calomel; it is by far the most appropriate cathartic in all its stages, and in small portions, combined with ipecacuanha, as an eccoprotic, alterative and diaphoretic, cathartics, as before said, are of the first consequence in the management of this fever. Next in value I esteem the use of enemata. These, however, must be thoroughly used, and of an active kind, and frequently exhibited; when thus employed, they will, in their effects, even surprise the physician who has not been in the habit of seeing their power displayed in its full force. For this purpose, powdered rhubarb to the extent of half an ounce, given in some emollient decoction, has proved itself very valuable in my hands. We should use, at least, a quart or more for an enema.

Blisters are of essential service, and, I think, peculiarly advantageous in the relief of violent pain in the head and abdomen.

Opium, in combination with ipecacuanha and calomel, may be used to advantage where that article is indicated; and also in combination with myrrh and camphor in the last stages of this fever; but in many cases where it was given uncombined, it was decidedly injurious. A much better remedy of this nature is to be found in the domestic hop. One ounce of new hops, steeped for an hour or two in a quart of sharp vinegar, and applied as hot as the patient can bear them, with thick flannel cloths, is far superior, in those cases where the pain in the abdomen demands immediate relief, and the state of the circulation prohibits the lancet. Indeed, venesection rather aggravates than relieves cases of this kind.

Emetics can well be dispensed with in this disease, except in a few insulated cases, which may be benefited more particularly by their secondary, than their primary effects. As an emetic, the tartrate of antimony should never be used; it is an invaluable remedy in the treatment of active inflammatory diseases, but positively detrimental in any and every case where there exists an inflammation of another character, which almost universally appears in this fever. Wherever I have seen this article used, I have seen a lingering, doubtful, unmanageable case, or its speedy termination in death. This fever is very apt to run into the putrid type, which can scarcely be prevented if antimony has been exhibited in any way. And, further, the lake, or bilious fever of Michigan, is not the only disease in which emetic tartar is injurious; there are every year hundreds of cases, in the state of New-York alone, which are in themselves nothing if properly managed; but the physician judges it expedient to cleanse the stomach, and to do this effectually he employs this agent; the consequence is, such a reduction and disturbance of the vital energies of the system, that a slow, lingering, nervous fever, immediately seizes upon the patient.

A medical friend of mine, who was much in the habit of administering antimonial emetics, complained of having so many cases of low typhoid fever: as a cause I stated my objections against the use of antimony, except in particular cases. After some little argument he gave way so far as to try my plan; since that time he has acknowledged the injurious effects of that article, and the superiority of calomel, cathartics, and enemata. His candor likewise led him to confess his conviction of the truth of my views with respect to antimonial emetics being one great cause of slow, lingering fevers.

When an emetic is necessary, and cannot be dispensed with, we may employ the gillenia trifoliata, sanguinaria canadensis, or ipecacuanha, or, in particular cases, the sulphate of zinc; but the most effectual, and free from danger, is a compound of equal parts of ipecacuanha and calomel; and if the stomach prove quite insensible, add a few grains of powdered capsicum; or, if the pulse will admit of it, take a few ounces of blood as soon as nausea commences, to relieve the determination to the head; emesis will immediately follow, free, copious, and easy, to the patient; in an hour, or less, its cathartic operation will be effectual.

In this way I have relieved some unpromising cases, which were convalescent in four and twenty hours. Venesection previously spoken of, may be resorted to with advantage in many cases, but it can only be employed in the early stages of the disease, and then not so much for the purpose of reducing arterial action, as that of rendering the system more sensible to the impression of internal remedies. But in deciding upon the propriety of bleeding, we must not depend entirely upon the pulse; the sex, age, constitution, habits, former diseases, &c. of the patient, must be taken into consideration; the time and manner of attack, the effect of remedies which may have been already given, together with the general appearance, should never pass unnoticed. I was once called to visit a robust young man, aged twenty-five years, who was taken with pain in the lumbar and right iliac regions, the preceding evening; he rested little through the night; and arose early in the morning to walk out, believing that he should feel better. He had not proceeded far when his friends were under the necessity of carrying him back to the house in a state of distraction. His appearance was natural, except a paleness of the lower extremities, which were cold and numb; his appetite had been good up to the preceding evening; his urine was high colored, bowels constipated, skin rather dry, tongue yellowish, breathing easy, pulse moderately full, quick, sharp, easily compressed, and beating thirty-seven to the minute. The pain in his loins, and right iliac region, was so severe that his cries were heard at a considerable distance. The case demanded promptitude, and from what I could learn of his previous habits, diseases, &c., I thought of bleeding. Upon laying bare his arm, I discovered that he had been bled frequently; he expressed a wish that I should bleed him, as he thought he could then die easy. A vein was opened with a large orifice; the blood flowed with difficulty for some time, but when a pint had been drawn, it run in as large a stream as the orifice would admit. He gradually became easy, his pulse rose to seventy-four, and when he had lost forty ounces he requested his breakfast. This man lost, in five days, above two hundred ounces of blood, and recovered rapidly, without an indication at any time in the pulse demanding bleeding; that is, if we judge of the pulse according to the instruction of authors. This, however, is a singular case, but nevertheless it points out to us an uncertainty, or a liability to be deceived, if we judge from the pulse alone. Diaphoretics are frequently of service; to this end I have used ipecacuanha, in combination with calomel; if a more powerful effect is wanting, Dover's powder very generally answers the intention.

Where the liver is much implicated in the disease, it will be necessary to use mercurial friction, in conjunction with the internal exhibition of calomel. If the colon is not evacuated within the eighth day of the disease, it will most probably assume the putrid type. It is particularly necessary to observe cleanliness with all the minutia of management and care necessary in other bad fevers. I do not believe this disease, in any form, to be contagious, but it certainly requires great care and cleanliness to prevent infection.

Some cases of this fever are, from their commencement, of the putrid type; in these I can give no symptom of consequence, except those mentioned under the head of yellow fever, by Rush and others. I never had an opportunity of observing and treating cases of this kind, as they are principally confined to the shores of lake St. Clair; but, from the description by Dr. Stickney and others, who have had an opportunity of seeing and treating them in numerous instances, every symptom, phenomenon, and peculiarity, coincides so exactly with the description of yellow fever given by some authors, that I cannot doubt of its being that disease.

It is very certain, that we cannot determine from one, two, or three, nor yet a greater number of symptoms; but when every peculiarity of character agrees, in diseases supposed to be different, the candor of every mind must acknowledge them to be one and the same.

But to return to my former subject. When we are well convinced that the intestines are freed of all scybalous matter, and this formation is depending upon a want of tone in the colon, the happiest effects may be expected from enemata, exhibited once in three or four hours, of a quart (more or less, according to circumstances) of a strong decoction of the bark of the dogwood.

Other species of the cornus answer very well, but in my hands the c. circinata has proved itself superior.

In one instance where the colon appeared almost insensible to the action of the decoction, I employed the sulphate of quinine to the amount of fifteen grains, to which was added a small quantity of the tincture of kino, and exhibited in a decoction of the elm bark. To this I attributed the recovery of my patient, as from this time the disease became manageable.

When an obstinate vomiting appears, towards the latter stage of this fever, it is to be considered an alarming symptom; if in a child, and attended with fits, I know of nothing effectual; they are seldom, if ever, recovered. In the adult we can sometimes subdue it; to this end I have employed a blister upon the precordia of six or eight inches square, and then regulated my internal remedies according to the quality or properties of the matter ejected. If it is acid, (as may be tested with an infusion of blue cabbage,) the most successful remedy is caustic sodæ, in grain pills, frequently repeated, as they may be thrown off the stomach. If the matter is acrid, little can be done; we can only temporize and palliate. If bland and bilious, we shall derive some benefit from the exhibition of gum kino and camphor, in repeated small doses. Ptyalism has, in some cases, been effectual, but it is very seldom that we can induce ptyalism after this symptom appears. Vomiting sometimes attends upon the accession of fever; this, however, subsides the moment we can effect the dislodgement of the mass of scybala universally present in the cells of the colon.

Most cases in children are not as obstinate as in adult patients, neither are they so severely attacked, but still they are subject to the disease in its worst form. Those under two years I believe to be in little danger; but those above, who are in the habit of exposing themselves to the sun, eating unripe fruit, and live on a poor diet, are as liable, or more so, than adults. It is not very uncommon, that the nervous system is so irritable that the mind is continually in the state of excitement; the patient is apprehensive, suspicious, watchful, desires to be moved frequently, starts in terror from his sleep, and cannot be persuaded of his recovery. This comes on soon after a favorable crisis, and, if not relieved, does injury by retarding his convalescence, and even rendering him liable to a return of the fever. For his relief, exhibit opium in small doses at proper intervals, and bathe him frequently with hot vinegar from head to foot. This remedy is much more worthy of notice than hundreds of others daily employed by physicians. None who know its value will neglect it. Some object to the use of acetous acid, because, say they, it contains a mucilage which closes the excretory ducts of the skin, and prevents the escape of the perspirable matter. This, undoubtedly, is an objection, but still of no great consequence. Its effects upon the nervous system are peculiarly happy, and all bad consequences may be easily avoided by sponging off the skin with warm water. It will relieve jactitation, and induce sleep, where opium is inadmissible. It is frequently of great service in quieting spasms in children; it relieves a hot dry skin, which is quite common in this fever, and quiets the most violent pain. With all these advantages, I have used it for five years past.

The cold bath I do not conceive likely to be of benefit in common cases, and in those attended with local inflammation, it must be positively injurious. The warm bath is very beneficial in cases attended with fits in children, and in relaxing the skin, bringing the circulation to the surface, in evacuating the bowels, in restoring the circulation in the lower extremities, and in opening the pores of the skin.

Tonics and stimulants are of usual benefit after sufficient evacuations, but previous to this they are universally detrimental. *It may be laid down as a rule, that wherever tonics do harm, the patient still requires evacuants.* Another rule with me, from which I have never had occasion to depart, or doubt, is this,—as long as there is pain in the loins, there are scybala in the colon. In this judgment I have never been deceived; in many other fevers the same will stand the test of experience.

Causes, Seat, &c.—Freedom of discussion is encouraged by every true friend to literature, whether the subject be medical, political, metaphysical, or theological. Upon medical subjects particularly, the necessity of this must be obvious, even to common minds; therefore I beg leave to dissent from an old beaten track, and seek another for myself through the wilderness and confusion of medical ideas and opinions, leading (I think) more directly to the goal of perfection in the healing art.

From the time of Galen to the present, the subject of fevers has been a source of difficulty and contention among physicians, and at this day it is but little better understood than in ages past. Hypotheses and theories have been numerous, and have succeeded each other in rapid succession, and as rapidly have they fallen into oblivion; none have appeared capable of explaining the phenomena of disease, or standing the test of experience; none to satisfy the inquiring mind, and none to cast a genuine ray of light upon this dark subject. I cannot believe it possible, that so much time and talent could have been expended upon any one particular subject with so little benefit, if the proper chain of ideas had been found and followed. This first led me to doubt and scrutinize; since that time I have constantly applied to nature for an explanation of her mysteries. All I ask of my reader, is an attentive and impartial perusal; after which, he may decide for or against my doctrines.

In ancient times, fevers were probably much more simple than at present, but, from the very laws of the animal economy, they could never have been perfectly so. All those symptoms which, in combination, have been dignified by the appellation of fevers, I conceive to arise from one or both of two great causes, viz. *inflammation* and *irritation*.

I shall divide fevers into three classes:

1st. Those arising from irritation.

2d. Those arising from inflammation; and,

3d. Those arising from a combination of these two great proximate causes.

1st. That fever does, in some instances, arise from *irritation*, is very generally acknowledged by physicians. Now, the only difficulty remaining is, to prove what is, or may be the cause. If we find a man laboring under some degree of febrile action, and, upon an examination of his case, we learn that there exists an abscess in one of the lower extremities, we conclude this to be the cause. When the matter is evacuated, the fever disappears; this we consider to be positive evidence in favor of our former conclusion. And thus, in every case, if we discover any thing that may be an irritant, and by removing this the disease is removed, no one would doubt for a moment but that this was the cause. This point settled, we will proceed, after one remark further. Morbid action, induced by any cause, may continue through habit alone, although the cause be removed.

Fevers arising from irritation are, in their first stages, the most simple, and easily managed; and, when the cause is known, the most easily prevented.

In this class I shall place most cases of intermittents, remittents, typhus, and yellow fever.

1st. *Intermitting fever, or fever and ague.* This is the disease so admirably described by Dr. Cullen, in his "First Lines." It can seldom be regarded as dangerous, but universally troublesome, and commonly obstinate. Its cause, say authors, is "miasma, and the like." No doubt it is the remote, or original cause; but I am warranted in saying, that the proximate, or immediate cause of the disease, lies hidden within the cells of the *colon*. In every case of this disease, as far as my observation and inquiries have extended, universally a blockade of this large intestine has appeared; and until the mass of indurated feces be removed, the most energetic exhibition of tonics will be of little avail. Here irritation acts directly upon the nervous system, destroying that equality of distribution o its vital power, so necessary to health, and produces the symptoms which, collectively, are called *fever*.

That irritation is the proximate, or immediate cause of this disease, and that a collection of indurated feces in the colon, is the cause of irritation, I argue from these facts:

1st. The colon is universally constipated.

2d. By evacuating its contents, and restoring its tone of action, we remove the disease.

3d. In every case of relapse, a new formation of scybala is observed; and,

4th. When the colon has been thoroughly evacuated, and is kept free, the disease will not return, except through violent means.

Of more than one hundred cases of intermitting fever, eight assured me that their bowels were perfectly regular and natural, five were afflicted with diarrhœa, and the remainder were costive. They all, however, complained of pain in the loins, some degree of tenderness in the abdomen on pressure, more or less pain in the occiput, and numbness or prickling in the thighs, legs, and feet.

From these symptoms, and particularly from the pain in the loins, I judged the colon to be constipated, and treated the disease accordingly. This consisted in giving, at one dose, (in some instances, where the patient was peculiarly difficult to be operated upon,) to the amount of forty grains of calomel, and within an hour, or two, (according to circumstances,) an injection of a decoction of the elm bark, to which was added four drachms of powdered rhubarb. The stools were generally black, or bottle-green, principally scybala, and intolerably fetid. In some few cases they very much resembled tar in appearance and consistency; but in some others I could obtain nothing but natural evacuations, until I had given perhaps eight or ten cathartics in rapid succession, when the whole mass would break up at once, and be discharged in three or four evacuations. The pain in the loins, which had been, up to this time, very distressing, subsided at once, all unpleasant symptoms vanished, the ague failed to return at its accustomed period, and convalescence was insured by the use of some light tonic, an invigorating diet, and frequent enemata of a decoction of the dogwood bark, to restore tone and action to the debilitated fibres of the colon. This has been the common course of things in my practice, where the cases were of recent occurrence; when an old case presented itself, the same preparatory measures were used, and followed by the sulphate of quinine in large and repeated doses for a few days, after which the disease generally disappeared.

It was objected by a friend, that it was my treatment which produced the black stools; upon this, I used, instead of calomel, a combination of jalap and rhubarb, jalap and gamboge, jalap and aloes, jalap alone, and some others, in conjunction with enemata; jalap, gamboge, and aloes, was my last trial, and proved superior to any other; indeed, as an evacuant, it is not inferior to calomel itself. In every case, without an exception, the dejections were the same as if calomel had been used, except, if possible, their fetor was greater. Cases connected with diarrhœa generally proved more obstinate than others; for a while I considered this as peculiar; but I am induced to believe, from after observation, that it is occasioned by the negligence or non-compliance of the patient. It is with the greatest difficulty that we can persuade them of the necessity of cathartics, when the bowels are in this state; and, notwithstanding our most scrutinizing inquiries, they will often deceive us. One case of this kind I attended for ten days, continually prescribing cathartics, and ordering enemata, to no purpose; he had frequently expressed a decided belief of being reduced by this plan, and from this circumstance I began to suspect an imposition; fortunately, he requested me to give him something to ease the pain in his back; I prepared and gave him forty grains of calomel. In three hours I saw him again; when I entered the room, he exclaimed, "O, doctor, you have killed me; I am mortified." He had discharged about two quarts of scybalous matter, black and fetid beyond comparison; from this time he recovered rapidly.

Still further to prove my opinion correct, I used nothing but enemata in some half a dozen cases, and from the result of these, I have not the least reason to doubt, but that the disease, if recent, may be cured by these alone, in nineteen of twenty cases, unless complicated with some local, or other disease. In 1813, when the United States troops were stationed at Fort Sandusky, Dr. Stickney, in the absence of the senior surgeon, was called upon to act in that capacity. He visited the barracks, and found about one hundred of the troops laboring under incipient intermittents. The only treatment they received was injections of powdered rhubarb, and water, in large quantities, and frequently repeated. On the fifth morning, eighty of the number were under arms, and the seventh left but six of the whole in the barracks; to these six he was under the necessity of exhibiting alteratives for a short time, when they were discharged.

The doctor informed me, that relapses were frequent, and as frequently cured by the same means; and that in every case which he examined, of relapse, or previous disease, the discharges were black and scybalous.

After a man has once, to use a popular expression, worn out the ague, he is almost exempt from it, never having more than three paroxysms at a time, except he changes his location for one to which his system is not accustomed. He will bear up under constipation much longer before he is necessitated to apply for relief, although he is weak, languid, and unable to bear his usual exercise; he is now more subject to my second order.

2d. *Remitting fever.*—These have already been treated of at full length; but still we have something more to say of them that may be necessary to give the reader a proper opportunity of judging.

Remitting fever, in its simplest form, arises from the same proximate cause, but from some peculiarity, or want of consent in the system, this cause is suffered to remain longer, to acquire more virulence, and to commit greater depredations upon the constitutional eucrasy, before the system is roused to morbid action.

Whatever the cause of this may be, the fact appears evident from several circumstances.

1st. Remittents, when not thoroughly dealt with, not uncommonly decline imperceptibly into obstinate intermittents.

2d. Intermittents are always more or less inclined to run into remittents.

3d. The same treatment is equally successful in both.

4th. The same symptoms and evidence of a constipation of the colon exist; and,

5th. The same relief is experienced from an evacuation of the intestines, the contents of which are, to all appearance, identical.

For proof and arguments in favor of the foregoing, I must refer my reader back to *lake fever;* in the description of which will be found sufficient evidence to obliterate every reasonable doubt.

Before I proceed further upon this subject, I must introduce the reader to a succinct view of my ideas concerning the different appearance of diseases which are in essence the same, and arising from the same causes. The human system is so constructed, that its natural tendency, peculiarities, properties, habits, and idiosyncrasies, are more or less changed or accommodated to circumstances. These changes in the system are by no means equal in all who are equally exposed to the action of causes producing them. The atmospherical diathesis, in combination with local circumstances of soil, climate, situation, et cetera, universally control, and even mould, the form and character of diseases, admitting slight variations, according to temperaments, peculiarities, and habits. When this diathesis, or these peculiar effective properties of the atmosphere, remain stationary for any length of time, diseases all show, by their external character, their similarity of origin and essence. This may be either general, as that from which arises influenza, and all its attendants; or local, being confined within certain limits, as that under which prevails spotted fever, yellow fever, et cetera. When the diathesis is completely formed, and in active operation, if a man be introduced within its sphere of action, whose system is in no way accommodated to it, the impression is more violent, and the disease more dangerous, than in those who are in some measure inured to it by a gradual change; and even when the state of the system is very opposite to that of the atmospheric diathesis, the disease will appear as if altogether different.

For a strongly marked example of this, let me refer the reader to the writings of Doctor Cleghorn, in his work on the fevers of the West Indies. "The common tertian fever" of the country, "when it attacks Englishmen newly arrived, puts on all the usual symptoms of yellow fever." It cannot be supposed for a moment but that it was the same cause which produced the tertian fever in those inured to the climate. The great difference lies in the system, not in the cause of disease. In these two cases, the tertian in one, and the yellow fever in the other, were in essence the same; the difference does not amount to more than that of two cases of small pox, the one mild and distinct, the other malignant and confluent. And in this case, what man in his right mind would doubt their identity? The human system is capable of accommodating itself to circumstances, so far, that the most virulent cause of disease produces little or no effect, while to those who have not been gradually inured to it, it will prove the cause of a malignant and fatal disease. This was but too certainly proved at the Sessions held at Old Bailey in 1750, and at the Black Assises in 1577.

I shall now proceed with my remarks, wishing my reader to bear in mind the preceding hints on the causes and difference in the appearance of some diseases. It has already been said, that remittents arose from the same cause with intermittents, and several facts stated which materially assist in the support of this opinion. Still farther to establish and elucidate this point, I extract a few cases from my notes, which cannot fail to give satisfaction to the candid mind, in an inquiry after truth. The first cases are those treated with enemata alone; the next, those receiving a more general plan of treatment; and these followed by those requiring the most energetic measures.

Case First—July 27th, 1826.—Mr. A., a stout robust man, about thirty-five years of age, of rather a lean habit of body, and naturally slow in the motion of his bowels, was attacked in the night with chills. The next morning he arose, but was soon under the necessity of returning to his bed. When I arrived, his fever was running high, his pulse ninety, quick and sharp, tongue yellow, skin hot and dry, eyes yellow, bowels swollen, tender, and loose; excruciating pain in the loins, numbness of the thighs, and a general soreness of all the muscles. From circumstances other than the pulse, I determined on the propriety of venesection. He was bled until an effect was produced upon the system; a few ounces of rhubarb were then given, to be used in enemata, to the amount of half an ounce to a quart of the decoction of slippery elm bark, and repeat the injection in rapid succession, until some relief was procured.

28th.—I was informed that he took nine injections. With the first five, very little, if any thing, was discharged; the sixth, after being retained about an hour, brought away some hard balls, and a large quantity of black fluid matter; the seventh cleared the room of all attendants by its fetor—the quantity discharged must have been near two quarts; the eighth brought but little, and the ninth, nothing. Upon the operation of the seventh enema, he expressed his entire relief; but as I had told them that this black fetid matter must all come away, they thought best to continue them.

I found his pulse at seventy-two, moderately full, soft, and natural; tongue cleaning, skin warm and moist, no pain, and a return of appetite. He entirely recovered, and was discharged on the fourth day. The only remedies were decoctions of the dogwood bark for injections, and a few portions of the sulphate of quinine.

Case Second.—Mrs. W., of a delicate frame and constitution, had been laboring under more or less fever for six days. I found her pulse at ninety-eight; the tongue red, bordered with a yellowish-brown stripe in the centre; skin hot, dry, and yellow; eyes red, and painful; nausea, violent pain in the loins, bowels constipated, fetid sweats, and vertigo on rising. I simply ordered injections of water, milk, and salt. The execution of this order was left in the hands of a person who understood their use and management. In a few hours she evacuated a large quantity of scybala and green fluid matter, which excoriated the anus.

The injections were continued until nothing more could be obtained. That night she slept well, and the next morning arose free from fever. She remained about house for several days, when she relapsed. The same result followed the same treatment, as before. I then ordered an enema to be given daily for a week, consisting of a quart of the decoction of the bark of the dogwood, to each of which was added a few grains of quinine. She recovered rapidly, and remained in perfect health through the most sickly part of the season, although a more general prevalence of disease had never been known in the country.

Case Third.—T., a French hunter, came to me with all the before mentioned symptoms, which had kept him in bed half of the time for two weeks. I gave him directions how he should proceed, and explained the whole matter to him as clearly as possible, to insure obedience, as time would not (through pressure of business) permit me to call on him. On the fourth day, I met him seven miles from home, with his rifle, in pursuit of game. His case terminated precisely as the two former.

By the same means, I preserved my health through the whole summer, although constantly exposed by night and day to every species of danger. Any one can perceive, from the preceding history of this climate, that night exposure must be very detrimental to health.

To the foregoing cases I might add numerous others, but as the whole so nearly resemble each other in symptoms and appearance, the treatment so simple, and the result almost universally the same, I took notes of but few, and these of the first, treated in this manner. It is certain a few cases, let them be ever so plain and positive, may and will be quibbled over by the sophistry of those whose old established opinions and ideas are in danger; notwithstanding, as I am writing more for the purpose of calling the attention of physicians to this point, than of putting down opposition, I shall add nothing more at present under this head, but introduce my second set of cases. These are such as received a general plan of treatment.

Case First—July 20th, 1826.—Mr. W., a middle-aged man, of good constitution, was attacked with fever of a remitting character, two days previous to the time I saw him.

His pulse was eighty-two, jerking, hard, and small; tongue yellow, skin dry and hot; stomach irritable, bowels constipated, tenderness of the abdomen, and particularly of the right hypochondriac region; breathing hot and hurried; pain in the eyes, with a stiffness of motion; violent pain in the loins, cramp, and numbness of the legs.

He lost about ten ounces of blood, when the pulse became fuller, freer, and fell to eighty. He then took a common portion of calomel and jalap; some mild mercurial ointment was used by friction upon the region of the liver, and he was ordered to put his feet in warm water, and bathe his legs.

21*st.*—Very little alteration has taken place since yesterday. Pulse eighty-three, quick and sharp. Complains most of the pain in the small of the back. Powders of calomel and ipecacuanha prescribed. Mercurial friction continued.

22*d.*—No change. Treatment the same. He thinks his bowels free, and refuses cathartics.

23*d.*—Worse. Pain in the loins intolerable; tongue dark brown; abdomen tender and tumefied; great thirst; fetid yellow sweats; bowels loose, and pain in the thighs. Thirty grains of calomel were exhibited, and an enema, to which was added half an ounce of rhubarb.

24*th.*—Better. Cathartic and enema had operated well; discharging two quarts of hard black scybala, of great fetor. Pulse eighty, soft, and rather fuller than yesterday; tongue lighter; pain greatly relieved in the loins; skin rather moist; fever intermits this morning. Powders of calomel, ipecacuanha, and cream of tartar; at night, Dover's powder, and sweet spirits of nitre.

25*th.*—Pulse seventy-five, natural; tongue cleaning, all pain subsided, no fever, skin moist, and a little return of appetite. Powders, &c. the same.

27*th.*—A slight degree of fever; headache. Ordered enema, as before; powders of myrrh, ipecacuanha, and opium.

29*th.*—Fever an intermittent. Some pain still remaining in the loins. Gave a combination of jalap and aloes; enema, as before, and repeat.

30*th.*—Free from all pain; no fever, tongue cleaning, some appetite, eyes losing their yellow color. The cathartic operation was active and effectual. Powders of ipecacuanha and quinine; decoction of the dogwood bark for enema, to be repeated daily.

Aug. 1*st.*—No return of fever. Recovering.

From this time unavoidable circumstances prevented my seeing him until the 10th. Remittent again. Severe pain in the loins; intestines blockaded. He had followed up my orders for a few days, in some measure, and then neglected them altogether. Cathartics and enema, as before. His stools were copious, black, scybalous, and extremely fetid. From this time he recovered at a quick pace, under the use of the dogwood decoction and quinine. On the 15th he was discharged.

Case Second.—Aug. 12*th*, 1826.—Mr. L., a young man of a firm athletic frame and constitution. When I saw him, his pulse was ninety-eight, quick, tense, and full; tongue moist and yellow; skin hot and dry, particularly on the abdomen; bowels costive, and tender; pain in the head and loins; cramp in the thighs, legs, and feet; urine abundant, and very high colored; thirst excessive.

He was bled, so as to produce an effect upon the system. I then gave him calomel, rhubarb, and jalap, for a cathartic, and ordered an enema to be exhibited in an hour.

13*th*.—Cathartic operated violently, and frequently, but brought off nothing but a light colored matter, similar to yest, and apparently in a state of active fermentation; tenesmus; pain in the lower part of the abdomen—otherwise the same. Gave calomel gr. xx. ol. ricini 1 ℥. Ordered enema of one quart of a decoction of the ulmus fulva, to which was added, antim. tart. grs. iv., and pulv. rhei. ʒiii.

14*th*.—Operation of the cathartic and enema; brought off some dark colored fluid stools, but made no evident impression upon the disease. Yesterday's prescription and order repeated.

15*th*.—Pain relieved. Pulse eighty; tongue red bordered, and yellow in the middle; tenesmus continues; skin soft and moist; discharged some scybala. Powders of ipecacuanha, and calomel. Ordered the enema repeated.

16*th*.—Better. No pain; tenesmus relieved; pulse seventy-five, natural; tongue cleaning; skin moist; urine deposits a lateritious sediment. Voided in the night a large quantity of fetid matter, which not being seen, the color is not known. Powders of calomel, ipecacuanha and opium.

17*th*.—Remains the same.

18*th*.—Some pain in the loins. Ordered enema.

20*th*.—Free from all febrile symptoms. Appetite very good. The last enema brought from him several scybalous stools, from which he received perfect and immediate relief. The sulphate of quinine was prescribed to be continued. Ordered to use the dogwood decoction, for enema, daily. Upon this he quickly recovered his health and former vigor.

Similar cases are to be met with almost every day, during a sickly season, in this country. The climate admits of no great variety, all appear to arise from the same causes, and yield to the same treatment.

My third order of cases are such as require the most energetic plan of treatment to make an impression upon them.

Case First.—Sept. 4th, 1826.—Mrs. N., an elderly lady, of a delicate frame, has been laboring under disease for some weeks. Four or five days since, was attacked with fever, commencing with chills, and in two hours amounting to shivering. Having been frequently relieved of similar symptoms by the operation of cathartics, they were used more or less every day to no effect, having only procured one small motion. When I was called, her pulse was 110, quick, sharp, and rather hard; eyes and skin yellow; tongue almost black; breathing hot, hurried, and offensive; abdomen very tender to the touch; pain in the back and thighs; constipation; continual nausea, and some little of a sour, acrid, watery fluid, had been thrown up; pain and oppression at the stomach; skin hot and dry. She had been subject to dyspepsia for some years. She took, in divided portions, forty grains each of calomel and ipecacuanha in fifteen minutes. I took a few ounces of blood, which was immediately followed by emesis. The matter thrown up was thin and watery, of a greenish color, and sour smell. In about an hour there appeared some motion in the bowels; an enema was ordered to be given, consisting of two pints of barley water and four drachms of rhubarb. One pint and a half was injected. In twenty minutes from this time, she had a stool almost surpassing belief in quantity, black, scybalous, and fetid beyond comparison. Within the time of my stay, (four hours,) her skin relaxed, and became moist; pulse soft, and reduced to 94; nausea disappeared; pain relieved, and a return to natural sleep.

5th.—Better. Slept well last night; fever slight; pulse 90, and soft; some pain in the loins and abdomen; anus excoriated; faintness, and languor. Powders of myrrh, ipecacuanha, and quinine. Enema to be repeated. Application of hot vinegar and hops to the abdomen.

6th.—Improving. Discharged again, a quantity of dark bottle-green fluid, with enema. Powders continued. Ordered repeated enemata of the dogwood decoction.

7th.—Still improving. Treatment the same.

9th.—The same improvement, and the same treatment. This case gradually recovered without further attendance.

Several cases of this description occurred in my practice every summer; some more obstinate and severe, and others less so. In a few, the energetic measures failed. The drastic cathartics were used in large and repeated doses, both simple and combined; enemata were assiduously attended to, consisting of almost every combination which was thought likely to answer the purpose, with every collateral measure which the circumstances of individual cases would admit of, and still they terminated fatally, no dark colored stools having been procured. These occurred in elderly people, habitually costive, and were of long standing. Candor requires me also to acknowledge, that I have lost patients after a free evacuation of scybala, and every prospect presented of a speedy recovery. They would appear to improve for a few days, and then be suddenly attacked with faintness, under which they gradually ran down and died, as easy as the accession of natural sleep. I shall permit my reader to make his own comments, and proceed with some remarks upon the foregoing cases.

The first, which were treated with enemata alone, are in no way different in essence from the last. They are given from a great number which were treated in this way, some of which were very unpromising, and appeared even worse than those here given as receiving a general plan of treatment. I have no doubts in my mind but these also might have been recovered simply with injections.

The third order of cases are obstinate only through a want of sensibility in the intestines. As soon as this is restored, the case becomes manageable. As assistants, we may use (as circumstances dictate or permit) venesection, electric shocks, dashing cold water on the abdomen and lower extremities, injections, et cetera.

Not unfrequently we can restore action to the small intestines a long time previous to any impression made upon the large. In such cases the stools are yellow and frothy, like yest, thin, watery, and intermixed with the crude remains of prior aliment. These are the stools presented in every case of diarrhœa. Evacuations of this kind give no relief, but the moment black or dark colored stools appear, the patient expresses his satisfaction, and a change in his feelings for the better. Patients who had not been able for a week or ten days to stand without assistance, after an evacuation of a quart or more of this black fetid scybalous matter, I have known in three hours to rise of their own accord, dress, and walk out into an adjoining room, without the least desire of aid. I have known one instance where these stools were preceded by a violent colic, the pain commencing in the right iliac region. Some cases recover without any appearance of scybala, but never in a single instance have I known a complete recovery without dark colored stools in some form.

To avoid misunderstanding upon such cases as resisted all remedies, I must inform my reader that the closing symptoms were those of gangrene. They were not run down, (as might be thought from a previous sentence,) by the operation of cathartic remedies.

The first cases of this kind which occurred in my practice, created some doubts whether my ideas were correct; but a close attention to symptoms, history, and termination, soon convinced me of their identity. Subsequently, Doctor B. F. Stickney related to me two cases of dissection, after cases precisely like these, in which the brain was found to contain water in its ventricles, liver enlarged, spleen partly indurated, slight traces of inflammation through the small intestines, and the colon very large, black, filled with dark, bottle-green, and black indurated feces, and its coats so tender as to be removed by the finger nails. This at once decided the matter with me, as it must with every reasonable man.

3d. *Typhus.*—If my opinion in former diseases be considered as substantiated, little is necessary to be said under this head; but as this will probably not obtain the consent of every one, we will collect a few points in evidence of its truth. It must be understood that the term *typhus* is here used in its most common acceptation, and treated of as we see it under all its different forms, except what is more commonly known under the title of yellow fever, to which I shall give a separate consideration.

Most cases of typhus belong to the first class, or "those arising from irritation;" but many will be more properly placed in the third, or "those arising from inflammation and irritation." This division, also, takes place in other fevers.

Its symptoms are, languor; dejection of mind; depression (it cannot be a loss) of muscular strength; universal tenderness; pains in the head, back, and extremities; chills or rigors; eyes heavy and yellow; tongue yellow, dry, and parched; respiration anxious, and interrupted with sighing and moaning; breath hot and offensive; urine pale and watery; bowels constipated; pulse quick, small, and sometimes hard; heat and oppression at the precordia; and, occasionally, vomiting of bilious matter. As the disease advances, the pulse becomes very frequent, tongue almost black, skin dry and hot, black fetid stools, hemorrhage from the gums and other parts, after which the case soon terminates in death. In this train of symptoms, we have several indicating a blockade of the colon; as tenderness of the whole surface, depression of strength, rigors, offensive breath, pain and oppression at the stomach, and, above all, pain in the back, constipation of the bowels, and subsequent black fetid stools.

I shall here insert a case which occurred in my father's family in the fall of 1821. The patient was a young man of sound constitution, who had for some time led a sedentary life, contrary to his former habits. During an easterly storm, he was attacked with all the premonitory symptoms of fever. As his bowels had been costive for some weeks, a cathartic was prescribed; it operated several times, but gave no relief; another was prescribed, and taken, which brought off two or three dark stools, and some scybala; upon this, the pain in his loins (which was the only pain complained of) subsided so far, that he remained quite comfortable for a few days. At this time he was attacked again, and the pain in his loins became violent. As the stomach was much distressed, an emetic was thought advisable; he took the tartrate of antimony, and from that time he never rose without assistance for forty days. He complained, from the first, of pain in the small of the back, with occasional darting pains through the head and eyes; he slept quietly probably two thirds of the time, from which he awoke, or could be roused, as in natural healthy sleep.

His convalescence was slow, lingering, and scarcely perceptible, until it was discovered that he had had no motion for two or three days; he was then ordered a portion of pills, to be repeated provided the first did not operate. They were placed by his bedside, so that he could take them at the hour appointed, if his attendants should be absent. To avoid two doses, he took them at one; in three hours he discharged nearly two quarts of scybala, and a quantity of greenish fluid matter, which caused such an insufferable smell as to sicken his attendants. Sleep succeeded for a short time, from which he awoke, perfectly free from all painful feelings. He now recovered his appetite, lost at once the disposition to sleep, the tongue cleaned, the skin and eyes cleared, the skin became soft and moist, and in two weeks he returned to his former business. Another case, similar in all respects, occurred shortly after in the same family, but received the name of an intermitting bilious. The patient received no benefit from any thing, until she took a cathartic, which produced all the salutary effects, and the same speedy recovery, as in the former case. I do not instance these as peculiar, individual, or remarkable cases; I believe my reader may, with perfect safety, be referred to the notes of every one who has many cases of this disease to treat. With this view, I have for five years treated this fever, as it has occurred in my practice, and within that time I have not had a case of slow nervous fever; while, under a different treatment, with different ideas of its nature, I have seen it run from three to five weeks.

Another name is given to the same disease, when it appears in the putrid form. Why not invent a new name for every variety of disease? Typhus gravior, is a malignant fever, not essentially different from another putrid disease; the very character of the fever depends entirely upon the peculiarly unfavorable circumstances of the system under which the disease makes its attack.

This is also the case with pneumonia typhodes, remittents of hot climates, and yellow fever. The system, laboring under irritation, is very different according to circumstances. We are not surprised that irritation, in different degrees, under different circumstances of constitution and application, should produce nausea, vomiting, gastritis, diarrhœa, infantile fits, epilepsy, tetanus, chorea sancti viti, enteritis, ophthalmia, hydrocephalus, mania, hectic, et cetera.

In these diseases we have examples of irritation producing violent effects upon the sanguiferous, muscular, lymphatic, and nervous systems; supposing the state of all the functions gave consent to a general action, what would be the consequence? Irritation is but irritation, from whatever cause arising; the constitution, application, and degree, gives the difference in diseases and symptoms.

A mass of indurated feces in the colon, by long continuance, injures, or suspends its functions, by its pressure, in its enlarged state, upon the *great sympathetic nerve*, and *lumbar ganglia*, from whence it receives its nerves. The putrid state of this collection vitiates all the fluids, by absorption of its putrescent matter, in proportion to its putrescency, and in the same ratio adds to the malignancy of a disease.

The great sympathetic being so immediately connected with the healthy performance of all the functions of the chylopoetic viscera, it must follow that all these will be disturbed in proportion to its implication. Again I would remind my reader of the connexion existing between the nerves of the colon, the great sympathetic, medulla spinalis, and nerves supplying the lumbar muscles, which cannot fail to aid him in tracing out the cause of that violent pain in the loins so frequently spoken of by patients laboring under fever. It is not, as it is generally believed to be, the effect of fever; it cannot be, as it is one of the most common, and to the patient most prominent and distressing symptoms, in the early forming stages of a fever.

2d. *Fevers arising from inflammation.* Diseases of this class may be caused by sudden changes of temperature, violent exertions, and straining any particular part, external injuries, et cetera.

This class includes all such cases as arise from an active inflammatory diathesis; at the head of the list stands *synocha*. In fevers, or diseases of this class, I consider the application of violence, exertions, changes of temperature, or whatever other circumstance gives rise to them, as the remote, and the inflammation thereby induced, as the proximate and essential cause of the fever. As we have little or nothing to do with this division at present, we will pass on to a more important, intricate, and unmanageable class.

3d. *Fevers arising from a combination of inflammation and irritation.* This class may be considered almost invariably intractable and malignant. The peculiarities of constitutional action in these cases are great; for some unknown reason the system refuses to answer to the irritation in the usual way, and suffers the cause to continue until it acquires great virulence from the putrid fermentation in the cells of the colon. At this time there suddenly springs up, in some one or more debilitated, and perhaps distant organs, a malignant sub-acute inflammation. Examples of this are to be found in the yellow fever, jail, hospital, and ship fevers, typhus remittents, especially in hot climates, et cetera.

Notwithstanding I have given a separate class to such cases, I am decidedly of the opinion, that this irritation, and the absorption of putrescent matter from the contents of the colon, is the *primum mobile* of that inflammation which assists in exciting febrile action in the system.

It requires a nice distinction to divide those of the first class, which are attended with inflammation, from the third, and especially where we fail in obtaining a correct history of a case of some days continuance. However, there is commonly one marked difference. Those of the first class, even attended with inflammation, are not malignant or unmanageable in the first stages, and those of the third are so from their commencement. Under other circumstances, if we can discover whether inflammation preceded, or succeeded the accession of fever, we can at once determine the class to which it belongs. This inflammation, even in yellow fever, is not universally of a malignant subacute character; it sometimes approaches to the active species, when it is more easily managed.

My professional brethren must excuse the freedom with which I have undertaken to controvert old established opinions, and still further, a remark yet more at variance. Circumstantial evidence goes far to prove the very *plague of Egypt* to belong to this class of fevers, with the peculiarity of spending its force upon the lymphatic and glandular systems.

There can be no doubt, at this day, that the decomposition of vegetable matter deposited on the land by the *Nile*, when it overflows its banks, gives rise to this pestilential scourge. It has been observed to decline very rapidly when the Nile happened to overflow, and cover the land, from which was generated the miasmata upon which it depended. The laws of nature in general, the laws governing the different chemical combinations and decompositions, and those of the animal economy, are, and necessarily must be, the same in every part of the globe. What possible difference can there be, under these circumstances, between this miasma producing plague, and that from which arises intermitting and remitting fevers, in America?

The whole matter, then, depends upon the atmospherical diathesis, and the peculiar state of the system induced by it.

I have long deferred an answer to a very natural question—how comes the colon constipated? I shall first recapitulate the causes said to produce fever, and in this will be found my answer.

Contagion, human effluvia, infection, and miasmata.—I shall treat of the three first causes in a few words. Contagion is a peculiar product of vital vascular action, with the property of inducing a disease similar to the one from which it sprung. It appears to be governed by different laws in different diseases; for instance, the small pox and measles are communicated by the atmosphere at some distance; syphilis and psora cannot be communicated except by contact, either with the original source, or something capable of retaining their virus in an active form. Of whatever character it may be, it very seldom, if ever, produces any sensible effect upon the system at the time of its operation or entrance. If it be of a febrile character, and more particularly typhus, or yellow fever, it operates, in a short time, upon the nervous system, reducing its energy, destroying the equality in the distribution of its vital fluid or power, and thereby creating an unequal excitement, and morbid action, throughout the system. But more of this in the sequel.

Infection, and human effluvia, may be taken under one head, although we may apply the term effluvia to contagion. Infection is never specific in kind; it may, under certain circumstances, induce a disease similar to that from which it originated, but it as often does not. Of this character I consider confined air of rooms, beds and bedding, excretions, &c. where they give rise to fevers, except in diseases of specific contagion, the virus of which may be retained in articles of clothing, beds, and the like.

To draw a definite line between the two, let us consider contagion as the product of vital action, and infection, or effluvia, as acquiring its effective properties from the laws of inanimate matter. Marsh miasmata, or effluvia arising from the decomposition of vegetable and animal matter, I am of opinion, are far greater sources of disease than they are commonly believed to be by physicians.

None will doubt, I presume, of their being the original cause of intermitting and remitting fevers, of typhus and simple continued fever; and why not of dysentery, scarlet fever, cynanche maligna, and other species of this genus, of yellow fever, plague, and small pox? We very frequently see dysentery, scarlet fever, cynanche, and small pox, suddenly appearing in remote parts of our country, without the least shadow of evidence in favor of contagion. How often do there occur insulated cases, without a possibility of originating from contagion? If not, then, from common causes, as miasma, from what do they arise? The plague is allowed, by many respectable writers, to arise from "damaged grain, putrid fish, and other animal substances; noxious exhalations arising from stagnant water, or slimy mud."* It has been observed to rage with greater violence when the south wind continued any length of time, and to disappear if the wind blew from the north a few days. Should it have been contagion, conveyed over the land by the south wind, which increased the malignancy of the disease? Or is it not more probable (nay, does it not amount to positive evidence) that it was miasmata? Here we have several contagious diseases arising from miasmata, for all we can prove to the contrary, and why is it impossible that yellow fever should be of the same origin?

I think this has been already demonstrated in one instance, and if once, then again.

If the yellow fever did first arise from causes less than contagion, it may again originate in the same way. Shall I be asked, why does not yellow fever, if arising from miasmata, appear in our inland towns, and the interior of the country, where such miasmata evidently exists? The character of diseases much more depends upon the atmospheric diathesis, and the peculiarity of action and state of the system, than upon the original cause. Let me inquire, why has not the plague appeared among us long since? Its cause certainly exists very abundantly in many parts of our country. I answer again, if the same circumstances existed here, both internal and external, we should be quite familiar with this curse of Egypt.

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* Thomas, p. 274.

I should not be surprised to see, within a few years, the plague, yellow fever, scarlet fever, spotted fever, typhus, remittents, intermittents, small pox, measles, dysentery, cynanche maligna, chorea sancti viti, and some others, referred to one class of original causes. I well know this would not be a scientific, or very convenient classification; nevertheless, it appears to me, that within this century it will be found most in accordance with the operations of nature. But to return to the subject.

Miasmata, infection, and effluvia, are remote, or first causes of disease, which produce, by their operation upon the system, the immediate, or essential cause, the seat of which may be regarded as the seat of the disease itself. Their effects appear to be, a diminution of sensibility, activity, and vital energy in the nervous system, and a general or partial loss of equality in the distribution of its action.

Where the whole nervous system remains equalized, although reduced in activity, these causes will not produce disease in an open form; but by diminishing the activity of the vital spring of all mobility in the animal body, it reduces the energy of every member belonging thereto. Now, every physiologist knows, that no part of the human frame is more tardy and sluggish in its natural motions, than that portion of the intestines called the colon. Allowing this to be the fact, is it not positive evidence, that the effect of diminished nervous energy will bear upon this part the heaviest? Besides, its natural formation very much favors a collection of matter in its cells, even in an active state, and much more when laboring under this effect. Hence we perceive the proximate cause to be an effect of the remote, or first cause or causes.

To give another point in evidence, what effect has a diminished nervous energy upon the stomach? Some of the most celebrated men of modern times have given it as their opinion, that emesis is produced by this means, and I presume my reader will not doubt it. Is nausea an uncommon symptom after an exposure to miasma? This I believe to be the effect of all nauseating offensive odors that are popularly said to turn the stomach. A disgusting sight sometimes produces this effect, through the medium of the nervous and sanguiferous systems. Venesection produces it by the abstraction of stimuli; also, narcotics, cold, damp, impure air, et cetera.

[*To be continued.*]

ART. III.—*Result of Observations made upon the Black Vomit, or Yellow Fever, at Havana and New-York, communicated to the Board of Health and Common Council of the city of New-York. By* P. S. TOWNSEND, M. D., *a member of the Common Council, and formerly Health Commissioner of New-York.*

HAVANA, *Island of Cuba, Aug.* 11*th*, 1830.

1. YELLOW FEVER is a disease to which the natives of cold and temperate latitudes are peculiarly liable upon their sudden arrival in hot climates. It is the seasoning, or change, which nature endeavors to operate in the constitution, in order to accommodate and adapt it to the new circumstances under which it is placed.

For the animal organization in cold countries being different, it is necessary that it should undergo considerable modification before it can be acclimated, or naturalized, to tropical and equatorial latitudes. Thus, the blood from being thick, rich, oily, and inflammatory, abounding in carbon, hydrogen, and caloric, must be converted into a limpid, bland, and watery fluid, in which must predominate a large portion of water, and those saline substances necessary to preserve it from putrefaction, to dissolve its grosser particles, and to retain it in a cool temperature. Saccharine, acidulous, and juicy fruits, must therefore be substituted in great measure for the animal and oily food of cold countries. The circulation of the blood, also, from being most active in the interior organs of the body, must now be directed towards the surface or skin, which becomes in hot climates the great outlet of the system. It is the concurrence, therefore, of a *northern constitution and a tropical heat*, two conditions which are incompatible, and cannot co-exist together, which produces the disease termed yellow fever, or black vomit. The proximity of the tropical portions of Africa and America to the commercial nations occupying the temperate latitudes of Europe and the United States, is the cause why yellow fever is of so much more frequent occurrence in those countries than in the populous regions of India; because the length of the voyage from Europe or the United States to the East Indies is such, that the constitution becomes gradually divested of its northern peculiarities, and gradually habituated and assimilated to the climate of the torrid zone—which change, when suddenly forced into operation, as it is, for example, in persons arriving from the northern parts of Europe and the United States upon the coast of Africa and the West Indies, creates what has been denominated yellow fever, or black vomit; which disease seems in reality to be, in conformity to the opinion of the older writers, a fermentation, dissolution, or disintegration of the blood into a more limpid and attenuated fluid, as is particularly manifest from the facility with which it passes through vessels which before it could not enter, (as in the adnata, or white part of the eye,) from its being transmitted even through the pores of the skin, (of which cases have occurred,) and from the examination of the matter of the black vomit itself.

2. This disease, in new comers in the tropics, is most usually excited into action by exposure to the sun, fatigue, spirituous drinks, &c.; and it may occur sporadically—that is, in individual and insulated cases,—in any part of the tropics, in the interior as well as upon the sea coast, and also on ship board, out of sight of land, and remote from its influence.

3. But when yellow fever is produced in an atmosphere already impregnated by human effluvia, it assumes a more malignant character, and thus may be, and often is, propagated and re-produced by contagion—as in a vessel of war, and transports, at sea, or other vessels in which numbers are crowded together in a small space, and also in garisons, hospitals, &c. upon land. In hot climates, the yellow fever is less frequently contagious, from the practice of constant ventilation, and from the contagious matter being rarefied by the heat of the atmosphere, and thus rendered less noxious. A remarkable instance of the production of yellow fever in its *sporadic* form, and afterwards of its propagation by contagion, under what may be denominated its *epidemic* character, occurred in the American merchant ship Charles Henry, which left the port of Havana June 10th, and arrived at New-York June 22d. This case, *some* of the particulars of which have doubtless already come under the knowledge of the Board of Health, is most particularly worthy of note, as it shows how totally independent the origin of the vomito is of the exhalations of vegetable putrefaction and marsh miasmata, which by many physicians, and particularly by those of the United States, have been thought to be the source of it—which erroneous opinion has caused yellow fever to be confounded by such persons with intermittents and remittents, thereby leading to most mischievous and fatal consequences in the treatment of the disease, and in the laws relating to the public health. There were about ten or twelve passengers occupying the cabin of this vessel, and the crew consisted of nearly the same number. Both crew and passengers left

Havana in perfect health, and had not, as far as we are informed, been exposed to any sources of contagion in the harbor. The first case was a Mrs. Grassman, who fell sick *five* days after leaving the port. She was from the United States, and had been residing here, in good health, in the airy and elevated suburbs of Havana, from whence she went on board the vessel. She died of yellow fever, and from this case the disease, in the course of the voyage, spread through the ship, proving *fatal* to two others of the cabin passengers, and to three or four of the crew. Parallel cases to that of the *Charles Henry* occurred about the same time in the American ship *Fama*, which sailed from Havana for Russia the latter part of May, and in the American brig *Charlotte*, which left Havana for the same destination in the early part of June. They left here in good health; the disease broke out at sea, spread by contagion, and proved fatal to several on board each vessel, obliging the ship to put into Boston, and the brig into Newport.

It may, perhaps, be said, that in the first cases of all these three vessels, the seeds of the yellow fever, (or, rather, the predisposition to it,) were imbibed in the hot and confined harbor of Havana, and would, had the persons remained there, have been kept dormant by the copious discharges from the skin; but that on the change to a cooler atmosphere at sea, the suppression of the perspiration, and the crowded, confined, and, therefore, unwholesome state of the air on board, the morbific principle was put into motion, and the disease developed.

Whatever be the explanation of the origin, the propagation afterwards, by *contagion*, re-producing the same identical disease, with all its characteristic symptoms of black vomit, &c. is placed beyond the possibility of doubt or dispute.

These instances, like others of frequent occurrence the last few years, at New-York, Norfolk, and other places in the United States, at Barcelona, in Spain, Marseilles, in France, &c., point out the importance of dispersion and pure air, and the extreme danger of a crowded and confined atmosphere, impregnated with human effluvia, whether at sea or upon land, as this is the chief medium through which yellow fever becomes contagious.

These facts also show the necessity of directing the operation of the quarantine system, not to the *animal* or *vegetable* filth on board of vessels, but especially in respect to the number of persons on board; and they also indicate the propriety of confining our quarantine regulations to *such vessels only* as arrive during the hot season from tropical latitudes. From whence it follows, that we ought to abrogate many of those embarrassing restrictions upon our commerce which have been introduced into our laws from misconceptions that have existed relative to the domestic origin of the disease, and the influence of animal or vegetable putrefaction.

NEW-YORK, *January*, 1831.

Since my return to New-York, I have been politely furnished by James Morgan, Esq., of this city, now a member of the honorable the legislature of this state, with the subjoined details. That gentleman, who was a passenger on board the Charles Henry, having, from his familiarity with the diseases of hot climates, rendered himself particularly useful, by his humane and kind services to the sick, of whose symptoms, and of the medicines he administered, he kept a minute and faithful record, Dr. Morell, of Cuba, an eminent physician, on board, being unfortunately ill during the passage. These details are peculiarly interesting, and demonstrate, in a manner sufficiently clear and convincing, to any but the most perverted imagination, the truth of the opinions advanced in the foregoing communication. Mrs. Grassman was not, it appears, the first case, but there were two others who were simultaneously attacked with her, and from these three, doubtless, the disease was communicated to the rest of the ship's company, which is in perfect accordance with the gradual and progressive propagation through the members of the same family, or inhabitants of the same building, during the last yellow fever with which this city was visited, viz. in 1822.*

1. Joseph Norris, an American, of a thin habit, light complexion, aged from twenty-six to thirty years—profession, ostler. Had been residing some time in Havana, in the capacity of a servant to the postmaster general. The first day of the vessel's leaving the port was observed to be complaining, and lying on deck, under the awning, near the steerage hatchway, as he was a *steerage* passenger. Complained of feeling very unwell, *of pain in the forepart of the head, shooting through the brain, and extending down in the direction of the spinal marrow*, and general pain and soreness in every joint of the body. The tongue furred, white, with the *apex and edge of a deep red color*. Was not bled. Gave a dose of seidlitz powders. During the afternoon of this first day, there was great heat, thirst, and burning fever. Eyes very *flushed, and red*, and some yellowishness of

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* See my History of that fever, p. 114. et seq.

the adnata. Gave him lemonade, which he rejected, showing thereby some irritability of the stomach, in part, perhaps, mingled with, and proceeding from, sea-sickness. Gave him then apple water, also a dose of salts, which operated but once. On the morning of the next, or second day, there was an apparent abatement of the fever. Gave another seidlitz powder, which operated but once. At 2 P. M. the fever seemed to return with extreme violence, and continued till 10 P. M., when it *abated altogether*, the state of *collapse* having arrived, with its usual symptoms, among which the *flighty, or incoherent state of his mind*, was very conspicuous. On the morning of the third day, complained of great distress, and burning soreness at the pit of the stomach. No vomiting, but rejected all his drinks. Applied poultices of onions and mustard to the epigastrium, and to the soles of the feet, calves of the legs, and arms. During the night, the pulse comparatively calm and natural, and the patient quiet, though still out of his mind. On the morning of the fourth day the breath was observed to have become quite offensive, and the discharges by stool fetid and black, mingled with blood. *Black vomit*, also, now began to be thrown up from the stomach in the shape of *coffee grounds*. Appeared now to be entirely *free of pain; conversed calmly, but was occasionally flighty in his remarks. Said he felt perfectly well, and got up off the deck, and walked about, two hours before his death*, which happened between two and three P. M. of the fourth day.

2 .Mrs. Grassman, born in New-York, aged from twenty-one to twenty-two years, was in the fifth month of her pregnancy, of a delicate habit, and, from having been too much in the use of corsets, strongly inclined to a pulmonic affection. Was also subject to fainting. fits. Had been residing in Havana some months previous, in the suburbs, as is stated above, during which she had regained her health, become pregnant, and fattened considerably, having gained as much as thirty pounds. Came on board well. The day of sailing, had some retching and vomiting, which was attributed to sea-sickness. Gave her a seidlitz powder, which operated freely three or four times. During this *first night* of leaving the port, the weather was a little *rough*, and she complained more of sea-sickness, as it was thought to be. She was costive, but had no fever. On the second day, the seidlitz powders having been repeated the evening previous, operated *freely, as before, three or four times.* During the afternoon, she went to her state room, in proceeding to which she fell on the cabin floor, fainted, and was brought on deck. That evening she complained of great pain at the pit

of the stomach, and in the region of the uterus, the latter having been, perhaps, somewhat injured by the fall. Much fever. Furred tongue, and high pulse. Eyes *very red, and protruded nearly out of their sockets. Agonizing headache*, which amounted to delirium. Some discharges of blood from the womb. During the whole night, delirious, and in great distress. Would jump frequently out of bed, almost convulsed, crying constantly for her husband. On the third day, at 5 A. M., she became easy, *the fever had entirely subsided*, and she lay quiet in her berth. Took no food or drink whatever, but remained entirely out of her mind, and unconscious of every thing around her, until seven or eight P. M., when she died, *without any black discharges* from the stomach, or by stool. After death, a very remarkable hot, and even *burning sensation*, was perceived, on putting the hand upon *the pit of the stomach, and over the chest*, which caused her burial to be deferred for six hours, the temperature of the air being, at the time, 84° Fahrenheit, and the weather clear and pleasant.

3. ——— Boyer, (son of Captain Boyer, of this city,) aged nineteen years, a native of New-York. Had been in Havana a month, or six weeks. Attacked the same day as Norris, and the symptoms and treatment precisely the same. The boy's berth was forward, among the crew.

4. Captain Packard, an American, aged twenty-seven years, six feet stature, and of strong, robust make. Had been commanding a smack on the coast of Florida, during the ten months previous. *On the third day out*, the ship being then still in the gulf, and between Cape Florida and Cape Romain, the temperature of the air mild, and the weather pleasant, this person, until then in perfect health, complained of a most excruciating pain in the head, the eyes being, at the same time, *very red, turgid, and protuberant.* The pulse 160. Face flushed. Complained of no other pain. Bled him more than *thirty-two ounces.* During the afternoon, the pain of the head left him, and the fever subsided; brought about, apparently, by the preceding treatment. His drinks were pineapple and lemonade water. Gave also a seidlitz powder. On the morning of the second day of the disease, the face became more flushed. The pulse as before. About 10 A. M. opened both temporal arteries, and took about *ten ounces* altogether. The seidlitz powders were repeated, but neither these, nor those before given, operated. The drinks the same as before, and now mustard cataplasms to the feet, calves of the legs, and arms. The fever again declined during the night. *On the third day*, between three and four A. M., the pain in the head became

more violent, accompanied by a *burning pain, and soreness at the pit of the stomach*, particularly to the touch, and he *now rejected his drinks.* To relieve the epigastric distress, scarified that part freely with the lancet, and procured thereby at *least a pint of blood.* After which, *applied thereon a mustard poultice*, by which combined treatment of depletion and counter irritation, the precordia seemed to have been very materially relieved. Became quiet; and without any fever. On the morning of the fourth day, between five and six o'clock, the pulse rose again to about 120, with a slight degree of incoherence in his conversation, but still strong, and enabled to walk about deck. During the night there was a brisk cold northwest wind, and rain, during which he came on deck without any clothes, *quite out of his mind, but not raving, and without fever.* This was at two o'clock, A. M. of the fifth day of the disease. He requested to have some drink, and was finally persuaded to go below, and became more and more prostrated till his death, which happened on the eleventh day of the disease, at the Quarantine Hospital, Staten Island, in the harbor of New-York, a minute of which is found upon the weekly report of the health officer, in these words: "Captain Frederick Packard, a passenger in the ship Charles and Henry, from Havana, admitted June 22d, in the *last stage of yellow fever*, and died on the 25th." Captain Packard, it will be recollected, was in the steerage with Norris.

Besides the four fatal cases enumerated. three of which were most unequivocally legitimate samples of the vomito, there were five others, which, recovering before they ripened into maturity, leave the contagious character of the disease as applicable to these, in the same degree of ambiguity which, under similar circumstances, is so apt to embarrass our investigations. They were:

1. In the forward part of the ship, the cook, the steward, and one of the *sailors*, who all fell sick *after the boy, Boyer's illness, had commenced.* They were slightly attacked, and had some *vomiting.*

2. In the *steerage*, where Norris and Packard were, there fell sick the *second mate*, and Captain Morgan's steward, *William*, (a white man.) They were all attacked about the same time, and *after the death of Norris and Packard.* William, who, from his frequent voyages to the Havana, must have, in a measure, acquired an almost perfect immunity against the disease, was, nevertheless, it would seem, not altogether invulnerable to its approaches. *He had taken up Norris' and Packard's beds after their death, and thrown them overboard.* The specific poison of the vomito was, no doubt, in this manner (as

has so repeatedly happened before through the same medium,) communicated to William, the repugnance of whose constitution to its reception, however, caused it soon to pass again out of the system, without materially affecting him. As this person was steward of the vessel in which I went to Havana, I can remark, that he was of a spare, delicate habit, and of a pale, sickly complexion, by birth English, and aged about thirty-five years.

I do not deny that it is possible that one or two of the cases that recovered may, as Captain Morgan states to me, have been attended with vomiting of bile, and may have seemed to be simple attacks of febrile and gastric irritation, arising from the combined operation of a redundant secretion of bile and a retroverted and suppressed movement in the cutaneous transpiration, caused by the cooler atmosphere of the sea. I have myself had the good fortune to witness these bilious attacks, in the same latitude, in their naked and unsophisticated purity, totally divested of all complication with the symptoms of other diseases. On my return from the island of Cuba, I embarked at Matanzas September 11th, 1830, for Charleston, S. Carolina, in the brig Julia. The commander of the vessel, A. Bernabeu, and his steward, were both subjects of severe bilious attacks for the first four or five days after leaving the port—the former in the shape of *copious and inordinate discharges* of pure bile from the stomach, with cephalalgia and nausea, but *totally unaccompanied with fever, or gastric irritation*; while, in the case of the steward, who was a young, robust black man, a native of Pennsylvania, but who had been nearly as much acclimated to the tropics as the captain, the disease assumed the true type of a bilious fever—vomiting of bile, and the adnata and tongue deeply tinged with yellow *from the very invasion*, and constitutional fever, great thirst, with alternate remissions and exacerbations, but no gastric or precordial irritability, except that from vomiting, and no black matter whatever discharged, either by stool, or from the stomach. In both, as usual, the vomiting and fever declined, under mild absorbent aperients, and febrifuge drinks. And here, in the last case of the colored man, though marked with such high arterial excitement, and such obvious complication of biliary derangement, I would ask the supporters of the miasmatic and atmospheric hypothesis of yellow fever, the Bancrofts, and similar enthusiasts, who have called it a variety of the common remittent type, and attributed it solely and exclusively to vegetable decomposition,—or the putrefactionists, who think it typhus, and ascribe it to *animal putridity*,—I would appeal to either section of these infectionists, to point out to me in this case the identity of this and similar cases with the symptoms of the true vomito. Where is the *red, protuberant, turgid, and watery eye,* proceeding often to high *ophthalmic inflammation,* and a purulent discharge from the lining tunic, as I have repeatedly seen it in the tropics? Where the prolonged paroxysm of the first stage, and then the total and sudden cessation of all arterial movement and constriction, which characterizes with such prominent features, the state of collapse, or second stage;—the clammy sweats, and marble coldness on the surface of the body, so lately glowing with an ardent temperature? Where that unique and peculiar hallucination, or insanity, which in this fatal calm in the vomito seems to take possession of the mental faculties, as in the maniac, infusing preternatural strength into the muscular fibre, and inspiring the morbidly exalted imagination with new hopes, that are but too soon to be blasted? Painting before his mind gay and pleasing illusions, which, while they delude and cheat the miserable victim with the flattering and cheering prospects of speedy restoration to health, are associated with too many horrid and real images, to be mistaken by the spectator for other than "thick coming fancies," designed by a kind Providence, as it were, to beguile the unhappy sufferer on his path to the tomb?

Remarks on the preceding cases, including a concise statement of the theory proposed by P. S. TOWNSEND, M. D., *respecting the origin, pathology, and treatment of the Vomito.*

THE above details furnish matter for deep and interesting reflection. The case of Norris, the unvarnished narrative of whose symptoms is thus given to us by a disinterested witness, out of the profession, (who, be it remembered, is also a *non-contagionist,*) was most clearly a legitimate instance of the vomito. The symptoms italicised in the text will furnish data enough to whoever is acquainted with this disease, to come to the true inferences of its idiopathic character. There is no more frequent occurrence, and one as perfectly well known as it is curious and inexplicable, than that of foreigners from cold climates, who have been residing some months of the hot weather at Havana, Vera Cruz, and other received *foci* of the yellow fever, escaping the disease the whole period of their exposure to what the *putrefactionists* (as the supporters of domestic origin in our sea-ports might be denominated) consider those dangerous sources of it, to wit, the exhalations from the docks and confined streets of cities, and then immediately, or the same day even, of the vessel in which they are embarked leaving the port, and getting to sea, becoming attacked with, and some seventy-two or ninety-six hours after, falling victims to the vomito.* Does then the predisposition which may, as we have above remarked, be presumed to exist, require for its active developement the exciting cause of a *mere* change of temperature from hot to cold, or vice versa, (as would sometimes appear to be the fact,) or, as in this instance, though the subject goes from the impure atmosphere of the city into the pure air of the ocean; can it be possible that in a transmutation so diametrically hostile to the doctrine of the *infectionists*, that the mere irritability of the stomach, produced by sea sickness, can be sufficient to bring the morbific movement into operation; and thus the chain of morbid phenomena, which in a cold climate would have terminated only in that affection, (sea sickness,) be made in a tropical temperature to pass into that peculiar assemblage or combination of symptoms, which constitutes the disease denominated the vomito, or yellow fever?

If the vomito, as has been suggested, be connected in some mysterious shape or other with a *defective decarbonization of the respiratory organs*,† then it would appear that a change from a hot to a cooler atmosphere, from the greater bulk of oxygen inspired, ought in some measure to remedy this defect, unless that salutary operation might be supposed to be counteracted by a diminished cutaneous discharge, and by the new and predisposing irritation existing in the stomach from sea-sickness. It is familiarly known to persons who have any experience in yellow fever, that pregnant women are peculiarly obnoxious or predisposed to it, and the gastric irritability which the uterine sympathies create in this state of the system, may sufficiently well account, with the sea-sickness superadded thereto, for the painfully distressing case of Mrs. Grassman; which, though somewhat obscure, from being complicated with the pregnancy, and in some measure, perhaps, with the fall, has nevertheless the character of the vomito boldly and legibly written upon its physiognomy. It will not be a sufficient objection to this supposition of the predisposing effect of sea-sickness, to say, that this latter affection is salutary by its nauseating symptoms, and that it is far from being of an inflammatory character, however greatly the nervous sensibility and muscular irritability of the organ may be thereby increased. For it is, I think, now clearly established by dissection and observation, that gastric inflammation plays no part in the vomito, and that the red appearances on the villous coat of the stomach are nothing more than the engorged or dilated state of the capillary vessels, as seen, also, on the eye, &c.

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* There is no filthier, yet healthier, spot on the globe, perhaps, than Havana itself, where this so repeatedly occurs, the situation of the town being low, under a hill, and confined within walls, with narrow and excessively filthy streets—the wharf especially. The harbor on which it lies is entirely in land, and therefore very hot, being confined by high hills, which effectually exclude the air, except the sea breeze through the narrow neck or mouth on the north, and which does not arrive until 10 A. M.

† See my History of the Yellow Fever of New-York in 1822, p 204, etc.; also, Dr. Pascalis' Essay on this subject the same year, and the Medical Repository of New-York many years previous, where the same idea is *first* broached by this physician; also, a Thesis published at Montpelier, France, in 1811, by M. Brochot.

The injury to the womb, if it had been the cause of her death, would in all probability, as there was so much constitutional excitement present, have displayed more organic inflammation than was manifest, as this organ is so acutely sensible when in a state of inflammation. Moreover, if there had been inflammation there, there would have been an increase instead of a subsidence of gastric sympathy. The true character of the disease, therefore, appears to have been the yellow fever, which, coming on with *great and unusual constitutional excitement*, not only suppressed the sea-sickness, but also any topical lesion that may have existed in the womb, though the gastric irritability would, as usual, in due course, have been re-developed in the stage of collapse, if death had not ensued before that stage had completely arrived.

Captain Packard's case is another faithful portrait of the disease, and rendered so much the more interesting, as it was manifestly a *pure case of contagion per se* Recollect that he had been familiarized the preceding ten months to a tropical atmosphere, coasting in the narrow gulf between Havana and the Florida Reefs, and therefore on ship board, and constantly exposed to the direct operation of a tropical sun upon his northern blood, and robust habit. But, as it would seem, there was in this instance a much greater predisposition to the *contagious* than to the *sporadic* formation of the disease. Whether he took it from Mrs. Grassman, who had a berth in the cabin next the steerage, where he was, or, what is infinitely more probable, from the other two cases, (Norris and Boyer, also in the steerage,) is a matter of no moment, as there were for these two last mentioned indisputable cases (leaving Mrs. G. out of the question) quite *pabulum* enough for their reproduction in the combustible material which Packard's habit afforded.

Independent of which, the crew, as well as passengers, being, as usual in these hot latitudes, much on deck, their constant and immediate intercourse is (especially in these small merchant vessels) quite unavoidable, to say nothing of a co-operating predisposing cause, (the greatest one,) derived from an atmosphere below decks, surcharged with carbonic acid gas; in other words, greatly deoxygenated, not only by respiration, but also deprived of its nitrogen, as well as oxygen, in the same proportion as the emanations from the body occupied the places of these gases, and, therefore, diminishing, under such circumstances, the bulk of vital air inspired, and perhaps in the same proportion, by the defective decarbonization thereby induced, and the impure gases from the body with which the air was imbued, predisposing to the formation of yellow fever. And this pathology we have given furnishes us with a powerful *a fortiori* argument in favor of contagion. For, were not a *specific virus or germ of reproduction from the living body* necessary, the mere inspiring of an atmosphere charged with a certain portion of caloric and carbon, would be sufficient to produce yellow fever artificially, without the aid of a tropical climate, a northern constitution, or a congregated assemblage of persons in confined and heated apartments. But in a temperate climate, through defect of some element which is present in a tropical one, this disease never can be produced sporadically, that is, without the co-operation of this germ. The excreted and unputrefacted gases and liquids that are thrown off from the living body in health, though innocuous when dispersed in the open atmosphere, seem to contain, by their combination or commixture when confined and compressed in their elasticity into greater density, some principle, which, though incapable of generating any other type of disease than *typhus*, contributes largely to the reproduction and propagation of the *vomito*. Thus, then, though the atmosphere of narrow, confined streets and apartments, where masses of population are compactly crowded together, may become the best of all possible mediums for the transmission of the contagious virus of yellow fever, and inure, in some degree, as we know it does, those who are habituated to inspiring such atmosphere against the reception of this virus, on the other hand strongly predisposes to an attack of the disease, those who, with the robust habit and rich blood acquired in a pure and wholesome country air, are suddenly immersed into one of the opposite character spoken of. In the celebrated assize cases, the judges, we recollect, took the infection *before* the prisoners. And it may be observed, *en passant*, that the captains of merchant vessels are much more liable to be negligent, in point of cleanliness, than our ships of war. And it is the constant and perfect ventilation, as well as the singular cleanliness of Dutch vessels of war, and merchantmen, so peculiar to this nation, which exempts them in hot latitudes, in so remarkable a manner, from the epidemic, or contagious ravages of this pestilence. I have already advanced, in a work written on the Topography, Weather, and Diseases of the Bahama Islands, (during my residence there in 1824–25,) some pathological speculations relative to the modification produced upon the human organization by the influence of climate, or what I have called the *centripetal* in cold, and the *centrifugal* movement of the fluids in hot, or equatorial latitudes, and the peculiar and curious changes resulting therefrom; whereby, in truth, we are furnished with a clue, or key, to much of the error and misconception that has existed in the description, as well as treatment of diseases.

In the work referred to (which it is my intention in that part to treat hereafter more at large) it is stated, that the natural and principal function of the respiratory organs is to divest the blood of its redundant carbon and hydrogen; and that this function is so much the more active, and so much the more necessary in a cold climate, because there is a greater proportion of carbon and hydrogen to be extricated from the system, in consequence of the greater quantity of oily and animal food consumed, particularly the former, and which kind of food (abounding in carbon and hydrogen) is, from the quantity of concrete caloric it contains, absolutely necessary to the preservation of life in such climates; also, for the formation of an external fatty covering to the body, illustrated particularly in the Esquimaux. That nature has provided, therefore, for the greater activity demanded of the pulmonary apparatus, by making the atmosphere in cold countries more dense, and, therefore, the bulk of oxygen inspired greater in proportion to the greater degree of decarbonization, and dehydrogenation, required through the pulmonic organs. That in the rarefied atmosphere of the torrid zone, the very reverse of this state of things exists; for here, with the total change of food, the atmosphere also is changed. Instead of oily, fatty, and animal food, being the base of our nutriment, the great mass of it consists of hydrogen and oxygen in the form of the acidulous, juicy, and watery drinks, and fruits, substituted, in great part, for the flesh and oil required in cold countries. The lesser quantity of oxygen, therefore, consumed in respiration by the natives of hot climates, is apparently supplied, in some measure, by the greater quantity acquired by the assimilating organs, the process of decarbonization being, as it were, performed throughout the whole vascular system, and not, as in cold climates, confined more especially to the lungs. This we see especially in the quantity of oil and ammonia excreted from the skin in hot climates, and the intention of which also appears to be to lubricate the surface against the desiccating operation of solar heat.

The four principal forms in which carbon and hydrogen are eliminated from the surface of the body in hot climates, are *water*, *ammonia*, *oil*, and *gelatin*, as indicated by the glutinous and oleaginous feel, and pungent odor of the sweat. Each of these proximate principles contains hydrogen, and the two last large portions also of carbon. From the fact, that urea, and uric acid, are more highly azotized than all other animal substances, it has been with much probability conjectured, that one of the functions of the urinary organs, is that of liberating *nitrogen* from the system. The diminished excretion from the kidneys, in hot climates, is, then, perhaps, in some measure, remedied by the nitrogen which passes off from the surface of the body in the form of *ammoniacal gas*, the pungent odor of which is so perceptible in all those who are natives of, or have resided long within the tropics; in the negro more powerful, it is true, but not less so, often, in whites of the fairest complexion. The lungs here, have but little to do in the matter of decarbonization; and corresponding to this, the quantity of vital air inspired, owing to the rarefied state of the atmosphere, is just in the same proportion decreased, water apparently being, in part, substituted in the place of oxygen and nitrogen, as we perceive in the well known humidity of a tropical atmosphere, from the evaporation being there, by the influence of the heat in much greater quantity. And this humidity being absorbed as such, without being decomposed by the lungs, co-operates in perfect harmony and co-ordination with the arrangement subsisting between the respiratory apparatus, the food, and the atmosphere, in these equinoxial regions; which co-ordination seems to be founded entirely on the principle of creating as much aqueous evaporation as possible, by diverting the fluids to the surface, whereby the blood is so much the more refrigerated, not only by the circulation of the acidulous, saccharine, and saline juices, which form so large a proportion of the food, but by the vast quantities of caloric which enter into the formation of the vapor exhaled from the skin, thereby preserving the organization from the destructive operation of solar heat in those countries. Now, it is evident, that persons coming suddenly into hot latitudes, with the rich, oily, inspissated, inflammatory and carbonated blood of cold countries, are so much the more liable to yellow fever, as the process of decarbonization in such constitutions, in hot climates, is, from the state of the atmosphere and skin, so much the more defective. All which is in perfect correspondence to, and harmony with, what appears to be the true pathology of the vomito, a *defective decarbonization of the blood*, as already stated, and as would appear to be sensibly manifested, and conclusively demonstrated, in the very substance of the granular, black, and charcoal nature of the *tinder* form of black vomit.[*] Now, in the attempt to bring about that change of the blood by which it may be adapted and accommodated in its consistence and qualities to the new circum-

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[*] Life has been compared to a torch, preserved in a state of combustion by the air inspired into the lungs. The carbon and hydrogen of the blood furnish the fuel for consumption, and the oxygen, with which they come in contact while passing through the chest in respiration, furnishes the spark which kindles the flame.

It is not by the respiratory apparatus only that the blood is decarbonated and dehydrogenated. The ammonia and oil[*] excreted in such abundance from the surface of the body in hot climates, prove that the cutaneous functions are also concerned in this salutary operation, which, in whatever organs it may take place, seems to be chiefly intended to preserve the different parts of the animal machine at one uniform degree of temperature. How admirable are the means by which an overruling Providence has contrived to bring about this result, under whatever circumstances of climate or locality the human frame may be placed! In arctic, or polar countries, where the heat is rapidly abstracted from the body by the reduced temperature of the circumambient air, a greater quantity of caloric is required to be generated. For this purpose the food is made to consist almost exclusively of animal fat and oils, which abound in hydrogen and carbon, while the more condensed state of the atmosphere, by furnishing a larger quantity of oxygen under the same bulk, also contributes to accelerate this process. The chest also seems fuller, and more expanded in its conformation, and the pulmonic apparatus cast upon a large mould. The blood thus becomes enriched and inspissated, of an oily consistence, highly inflammable, and of a dark color. The functions of the skin are dormant, and no caloric is expended by cutaneous evaporation. Life, by the centripetal tendency of the fluids, is thrown from the surface of the body into the large vessels of the circulating system and internal organs.

It is this more highly animalized and acrid condition of the blood, realizing, as it were, the speculations of Hunter, that makes, perhaps, organic inflammations more common in cold than hot climates, and favors the orthodoxy of modern pathology in treating the fevers and phlegmasiæ of cold countries by direct depletion of the blood vessels, rather than through the more circuitous medium of the alvine, urinary, and perspiratory secretions. Whereas, in hot climates, the lancet is employed, not so much to reduce the tone of the system, or to alter the qualities of the blood, which is here thin and impoverished, but to relax spasm, and retard the momentum of the circulation.

In a hot climate, the respiratory, digestive, and cutaneous apparatus, co-operate in such a manner as to retard, rather than accelerate the generation of caloric. The lungs are smaller in dimensions, the chest nar-

[*] Though the water, which is discharged to such a prodigious amount from the skin, consists of hydrogen and oxygen, this excretion cannot be considered as having any agency in the process described, when it is recollected that this element constitutes the bulk of the nutriment used in hot climates, and that it passes off from the skin in the same chemical state in which it was taken into the stomach.

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rower and flatter, the air highly rarefied, and the quantity of oxygen inspired, therefore, much less. The circulation also is slower, and the food consists principally of cooling sub-acid vegetable juices, which dilute the blood, and render it almost as limpid as water.*

The blood thus attenuated and impelled by a centrifugal tendency to the surface of the body, passes incessantly without difficulty, and in prodigious quantity, by evaporation through the emunctories of the skin, thus carrying off the caloric out of the system oftentimes more rapidly than it is generated within, or can be communicated from the heated atmosphere without. So highly elaborated are the organs of cutaneous transpiration, and so profuse the discharge which issues from its exhalent surface in a hot climate, that this part of the body may be considered the great outlet or drain of nearly all the excrementitious portion of the fluids, and to have almost superseded the use of the alvine and urinary functions.† Much of the hydrogen and carbon also, which, by this theory, form the combustible and inflammatory ingredients of the blood, are conducted harmlessly out of the system through the medium of the skin, in their undecompounded state, without being oxygenated, and, therefore, without being attended with the extrication of caloric, as they are supposed to be in passing through the lungs.

It is easy to conceive, that an organ which, in a hot climate, plays so important a part in the animal economy as the skin, would, when deranged in its functions, have much to do in the production of disease.

Though there is no part of the year in the Bahamas that can be legitimately denominated winter, the transition from the hot to the cool season is sensibly felt, and the cold, though not ordinarily sufficiently concentrated to produce, as in cold climates, acute or entonic inflammation of the viscera, gives origin to an extensive order of diseases by the retroversion, or by what has been, with more propriety, perhaps, emphatically termed, the revulsion or defluxion of the humors from the surface of the body upon the mucous membrane which lines the internal passages. The irritation occasioned by the actual transfer of this accustomed drain from the skin, and of the acrid ingredients of the perspirable matter, shows itself in a variety of morbid changes, which are rather to be considered functional than organic, and resembling congestion, or serous effusion, more than inflammation. Among these effects are catarrh, hydrothorax, bronchitis, asthma, &c. The predisposition to disease, occasioned by the enervating influence of the hot season upon the digestive organs, may explain why dysenteries, cholera, &c., as an exception to this remark, are more liable to be caused, as has been seen, by the sudden alternations of heat and moisture in hot weather, than in the cool season, when those organs have recovered their tone.

If it be the *lungs*, in a cold climate, that kindle the lamp of life, it is the *skin*, under a tropical sun, that dampens the fire, and prevents the flame from burning with too much vehemence. [Extract from a memoir on the Topography, &c. of the Bahamas, by P. S. Townsend, M. D. New-York, 1826, p. 55. et seq.]

* The pulse is perceptibly more compressible in a hot than cold climate.

† The excretions from the skin in hot climates are extremely pungent and offensive, being strongly impregnated with acescent, saline, ammoniacal, and oily matter, as has already been observed in the former part of this memoir. This transfer, as it were, of the vitality of the organization to the surface of the body, is furthermore corroborated by the augmented excitability acquired by the nervous system, and by the muscular tissues on the external parts of the body, as well as by the frequent occurrence in equatorial countries, of those diseases that are located in these functions.

stances under which it is placed, there results from the violence done to the healthy movements of the functions, a commotion, fermentation, and excitement, the result or process of which constitutes what is commonly or vulgarly called a seasoning or acclimation of the new comer—or, in more scientific language, *sporadic yellow fever.*

Why this disease, in this form, is so much more repeatedly produced, and so much more mortal, among the crews of foreign vessels lying in the port, than to others, arises, as I imagine, from two principal causes: First, their being more exposed to the existing causes of solar heat, to fatigue from their laborious occupations, and to intemperance in the use of liquors, and to other excesses which that class of persons are too apt to indulge in: Secondly, to their being often, in the first stage of the disease, shamefully neglected as respects the treatment, if not totally abandoned; for if they are attended, and removed to comfortable quarters on shore, it is at a moment when the removal, and the fatigue and exposure consequent upon it, do infinitely more harm than good—as is familiarly known at Havana, New-York, &c. Hence the reason *a fortiori*, why foreigners in the better classes of life so much more frequently escape, as well as recover from the disease, from having the comforts and attendance which this malady requires, and especially from the excellent system of nursing adopted in the West Indies, and of bathing the patient constantly night and day in tepid ablutions of lime-juice and water, depending for the evacuations on enemata, and leaving the stomach, according to the very judicious recommendation of Dr. Pym, as tranquil as possible, by placing nothing whatever upon it but an occasional table-spoonful of barley water; which treatment, combined with the general use of mustard cataplasms, which ought also to be mentioned, constitute, perhaps, simple and unscientific as it may appear, the most formidable and successful weapons, in a therapeutic point of view, which this desolating pestilence has ever encountered. And I do firmly believe,—as Dr. Hosack, in descanting upon the horrid abuse of the lancet and calomel in the vomito, has said of the successful practice of some humane philanthropists, during our epidemics, by the simple method of castor-oil and catnup tea,—that more good has been done, and more lives saved, by the *French mulatto nurses* of the West Indies, who are so distinguished in this department, than by all the combined influence of drugs, diplomas, and doctors, however much I may respect their utility in other diseases, and however much, also, I may be willing to acknowledge the utility of professional men in this scourge itself, provided they confine themselves, in our present ignorance of the true nature of yellow fever, to superintending merely the careful administration of the mode spoken of, instead of dabbling, as too many are wont to do, in empirical remedies, thinking, probably, that where nothing is certainly known, the ground is entirely open to whatever experiments their ingenuity or imagination may suggest.*

Having myself, in a severe attack of the disease, while at Havana, had an opportunity of personally witnessing and experiencing the benefits of this simple method of cure, I should deem it an act of injustice to my fellow creatures, and to the cause of humanity, were I to withhold from it my entire approbation. Finding, also, upon investigation and examination, that with the addition of some auxiliary measures, (such as topical venesection to the temples, by arteriotomy or leeches, in the very offset of the attack, in moderation, and proportioned to the organic affection of the cerebrum, the constitution, &c.) it is in perfect harmony with what I deem the true pathology and etiology (so far as I am acquainted) of the disease. For by these copious and constant ablutions, especially, we greatly augment the evaporation from the surface, and thus facilitate the extrication of caloric from the system—the activity of the cutaneous function, which is by far the most important to be acted upon in a hot climate, being, as it were, redoubled, and its dominion over the disease so much the more enlarged: thus fulfilling the intention, or vis medicatrix, of nature; who, in her desperate effort to accelerate the decarbonization of the blood, indicates the organ and function to be attacked, and the mode of treatment that ought to be pursued, effecting by this auxiliary assistance that fortunate result which otherwise she would not have been enabled to accomplish.

If the method of irritating embrocations could be so far extended as to create, as it were, or force into existence, an *artificial prickly heat*, the centrifugal movement would be thereby more speedily accomplished, and the most salutary results obtained—the importance of that eruption, as a protection in hot climates, being universally known and acknowledged.

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* "It can be clearly proved (says Dr. W. Stevens, in his late essay on the blood, read before the London Royal College of Physicians) that in the West India fevers, those patients that are left entirely to themselves have a much better chance of recovery, than those who are treated with emetics, calomel or antimony, opium, or acids; and that these remedies, instead of being useful, add greatly to the sufferings of the patients; they decidedly increase the very evils they are meant to relieve, and add greatly to the mortality in hot climates."

The universally acknowledged utility of lime juice ablutions (citric acid) to the surface in the West Indies, may be explained, perhaps, by the oxygen it contains becoming a ready solvent of the carbon extricated in the excretions that flow so abundantly through the great outlet or waste-gate of the cutaneous tissue. The well known affinity of citric acid for carbonate of lime, is owing, in part, perhaps, to a predisposing affinity existing between this acid and carbon, which would go still further to confirm the peculiar fitness and preference of this to other native vegetable acids for the purposes stated. The natural affinity, indeed, of all the vegetable acids for carbon, is evident from their abounding in all kinds of vegetable organization; for in this kingdom, carbon is the principal and controlling ingredient. Artificial acids, like the oxalic, and so, also, the mineral acids, are less adapted to such therapeutic uses to the living animal organization, because their affinities, as they are less natural, must be farther removed in their re-action upon those proximate living principles, to which they can bear but a remote relation.

The citric acid may be salutary, also, in another respect, by uniting with the ammonia, which is also so abundantly discharged from the skin in hot climates: the affinity existing between all vegetable acids and the elementary constituents of ammonia, being proved by the extrication of this compound of hydrogen and nitrogen during the distillation of vegetable alkalies—these last substances always existing in union with the vegetable acids.

The formation, also, of carbonic acid upon the skin, by the union of oxygen from the atmosphere, with the carbon excreted through the emunctories, is familiarly known to every one by the sour taste of the sweat, and also proved by experiment. It is possible, and, indeed, more than probable, that the citric acid, by its supply of oxygen, contributes to accelerate the healthful process of decarbonization in the disease in question.

The operation of the disease denominated yellow fever, when left to itself, is to produce what the older writers very justly denominated an attenuation and dissolution of the blood, or what would seem more correct, a sort of mechanical disintegration of its proximate principles into their separate and component molecules.* The same condition, nearly, in which it exists in the catamenial evacuations, and in persons who have been killed by the electric fluid, but very different in its nature from that semiputrescent state to which it seems to be reduced in typhoid fevers, and to which, notwithstanding the vulgar opinion, it cannot in any manner be compared, not even in the most malignant form under which the vomito is seen in intertropical countries. For, in truth, the mechanical disintegration of the blood into its proximate molecules would, perhaps, be unfavorable to the operation of those affinities which would decompose it into its chemical or constituent elements, which chemical decombination must take place before putrefaction can commence.

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* The cause of death (in the yellow fever of the West Indies, says Dr. W. Stevens, in a late essay before the London Royal College of Physicians) becomes evident on opening the heart, "for we find there, in place of blood, a dissolved fluid, nearly as thin as water, almost as black as ink, and evidently so diseased as to be totally incapable of either stimulating

We now come, in pursuing this view of the subject, to what may be termed the *contagious or epidemic form* of the disease in contradistinction to the sporadic.—If, from the condition of the respiratory and cutaneous functions, the obstacles to the rapid *decarbonization*, *refrigeration* and *attenuation* of the blood in a person of northern constitution, are upon his sudden arrival within the torrid zone almost insurmountable, terminating often in the death of the victim, upon whom nature, as it were, performs the experiment; how much more difficult are these obstacles to be overcome, when superadded thereto, the subject of this process or experiment is plunged into an atmosphere already decarbonized by respiration, as well as saturated and impregnated with human effluvia, and therefore, in the same proportion de-oxygenated and deprived of its vital properties. It is on this account that on board of unclean, and especially, *confined* vessels of war, in the tropics, where large numbers of persons are crowded together in a small compass; where ventilation is neglected, and where, besides the process of respiration, the impure exhalations from vegetable and animal putrefaction also help to displace the vital part of the air, and therefore, to de-oxygenate it; it is from these sources, and under these circumstances, but especially and principally from the carbonic acid gas extricated, which appears to be the medium of transmission,* that the system becomes, as it were, highly combusti-

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the heart, or supporting life. In both cavities of the heart the fluid is equally black, and in the whole vascular system all distinction between arterial and venous blood is entirely lost." The coloring matter, he thinks, is detached from the globules, and becomes indissolubly connected with the serum, by which the whole circulating current finally assumes one uniform black color—the same precisely as the black vomit.

* That the admixture of the carbonic acid expired in respiration, with the residiary oxygen of the atmosphere, is not merely pernicious by its own deleterious properties, and by the oxygen it displaces, is proved by the fact,

ble or predisposed to the reception of a *specific poison*, which the disease introduced or sporadically produced under such circumstances, and with such materials to act upon, is capable of generating and of re-producing in the subjects who are thus exposed to it. And this is what I denominate the *contagious*, and what others have called the typhoid and epidemic form of yellow fever. The distemper is, unquestionably, under such circumstances, truly contagious, and its multiplication being progressive, and never commencing until a spark is first introduced or communicated, the extension and re-production of the disease can, in no other way, be accounted for but upon the presumption of its contagiousness, and not, as the *miasmatists* affirm, from infection or putrescent gases eliminated into the atmosphere from vegetable or animal substances in a state of decomposition. Because, in that case, yellow fever, in the warm season especially, would be the *universal disease* of the inhabited parts of the globe, since it would be found wherever animal and vegetable putrefaction exist. Multitudes also would, as has been repeatedly said, be mown down with the disease simultaneously, and not successively, as it always happens; and which strikingly characterises yellow fever from those *endemic* disorders which arise from local exhalations, as well as from those *epidemic* scourges depending upon atmospheric influences, which, at times, sweep over, like the Indian *cholera*, entire kingdoms and empires of the earth.

Therefore, these predisposing causes to its epidemic extension become so much the more efficacious in the hot season of temperate latitudes, in consequence of the greater predisposition there existing in the constitution of the inhabitants of such latitudes. Its propagation thereby gaining, in this respect, what it loses in a tropical climate, by the obstacles which the progress of the disease there encounters from the rarefaction, and therefore comparative inertness of the contagious matter eliminated from the bodies of the sick, which is familiarly known also of typhus in the tropics, that fever being, as Sir Gilbert Blane had long since justly remarked, thereby rendered almost incapable of re-production, much more so indeed, than the contagious matter of plague, which is never seen in the tropics, but much less so than that of yellow fever—upon the differences existing in the specific virus of which fevers, I beg

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that an atmosphere composed of carbonic acid, and of a larger proportion of oxygen than that we breathe, is, nevertheless, fatal to animals that inspire it.

leave to refer to a paper communicated by me to the New-York Medical and Physical Journal, 1823.

Wherefore, as is well known to be the fact, the seeds of yellow fever, though they may germinate and become *sporadically* developed with more facility, within inter-tropical countries, are seldom re-produced there by *contagion* in the desolating and frightful manner in which they thus become propagated in temperate latitudes.

A great and prolific *source of the mortality* of the disease within the tropics is its sporadic production, while in temperate latitudes, this mortality becomes augmented tenfold, from the facilities there afforded to its epidemic or contagious extension, chiefly arising, as before said, from the greater predisposition there existing, not in the constitution of the atmosphere, but in the constitution of those who are the subjects of it.

Wherefore, it may be said that the pathology and etiology of the disease present themselves under two aspects:

1st. The predisposing causes in the hot atmosphere of the torrid zone which induce its sporadic developement.

2d. The predisposing causes in the constitution or organization of the human system itself, in temperate latitudes, which tend to its epidemic or contagious developement; *the only form under which it appears there.*

With these guides before us, it is easy to explain many circumstances connected with the history of yellow fever, which have, to some, appeared quite mysterious and enigmatical. It is thus seen how this pestilence, when imported in the warm season into the southern parts of Europe, into cities crowded with a dense and compact mass of population, the corrupted atmosphere from the confined construction of the streets and buildings of those places becomes like so much combustible matter, the vehicle which propagates with terrific rapidity the extension and multiplication of the disease, destroying, in its fatal march, within the space of a few months, thousands and tens of thousands of victims. It was scenes like these which brought home conviction to the comprehensive mind of the illustrious Humboldt, and made him confess, whatever his opinions might have previously been, that the devastating progress of the vomito, under such circumstances, clearly demonstrates that its propagation depended upon a contagious principle.

What is most remarkable in the history of yellow fever within the tropics, and what shows, also, the necessity of watching with minute attention and close discrimination, the phenomena of this disease, is the fact, that not only does the reduced temperature of elevated plateaus and mountainous regions, give, as it is very natural they should, a northern constitution to the inhabitants of such places, but even those who live in the interior of the West India Islands, in the pure country air upon the plantations, and where the elevation above the sea, and the range of the thermometer are very nearly the same as in the sea ports, (of Havana, for example,) the inhabitants, notwithstanding, also acquire thereby, in some sort, the constitution of a northern organization, or at least, they never acquire that perfect acclimatization, nor never reach that perfect immunity, which those do who reside in the hot and de-oxygenated atmosphere of populous towns and cities. Thus, as Humboldt (who, I believe, was the first to notice this) says, the inhabitant of the whole plateau or elevated table land of Mexico, immediately in the rear of Vera Cruz and the adjoining coast, on descending from the elevated position of Xalapa at the summit of the acclivity to the sea shore, becomes too often the victim of the vomito.

So, also, as is familiarly known at Havana, and other places, do those more robust and healthy *natives* of the interior of Cuba, when they come in the summer from their plantations, to visit or to reside among their pale, languid, and sickly brethren of the sea port, too often perish with the black vomit under its most appalling form; the native inhabitants, and long and constant residents of the sea ports, being the only description of persons who become positively acclimated to the tropics, and provided thereby with an absolute immunity against an attack of yellow fever. Likewise does an habitual and permanent residence at sea *within the tropics*, from the atmosphere there being, in warm weather, purer and some few degrees cooler than in corresponding parallels upon land, give, as it were, to the organization, what may be termed a greater degree of *sporadic susceptibility*. How often thus does it happen, that our vessels of war, as well as those of other nations cruising in the West Indies, so long as they are kept at sea, under the regular discipline established by these vessels as to food, drink, labor, cleanliness, and ventilation, escape the vomito, and enjoy, in the more uniform temperature, and cooler breezes of the ocean, uninterrupted health, until touching, *for twenty-four hours only*, perhaps, at some sea port, the indulgence in improper excesses of some few individuals who have been permitted to go ashore, kindles the spark, which a few days after, being out at sea again, spreads like a frightful conflagration through the whole ship's company. To such a cause may, as I conceive, be attributed the sickness which spread through the United States vessel of war the Peacock, during the last summer. That vessel was kept so constantly at sea during the summer, never coming nearer scarcely than the mouths of the sea ports, that I heard it frequently made the subject of remark during my residence at Havana. The very first cases of yellow fever on board were, as I learn from the assistant surgeon, those of the first lieutenant, and one of the midshipmen, and these occurred immediately after a very short visit of a few days she made during the summer at Matanzas. They both proved fatal. Some short time after she touched at Havana, I know, for it was there I became acquainted with the medical officer mentioned. And very shortly after that she was pronounced a sickly vessel, and put into Pensacola, where a very large number was buried, both of her officers and crew. This case is only adverted to as an illustration of an every-day familiar occurrence in the West Indies, the specification of the details being quite unnecessary, as the greater part have already appeared in our newspapers. In concluding this communication, I cannot refrain from noticing another important result to which we are led by the foregoing reflections, and which very naturally grows out of the *new theory* here proposed. It is, that we are furnished by this key with the true method that ought to be pursued by those intrusted with the care of the public health, and the police of cities, (in temperate climates especially,) to avert the introduction of the disease, and afterwards, if it should be unfortunately imported, to circumscribe and prevent its extension. Whereby we are put in possession of a controlling power hitherto unknown and unpractised until the year 1819, at New-York, by which we can diminish to a vast, and almost entire amount, the mortality which it has brought into those places where the irregular and careless system or execution of the quarantine laws have opened the door to its admission. And it may be observed here, that the desolating progress of the yellow fever in different cities, during the past century, has been as much owing to culpable, if not highly criminal negligence in this particular, (I mean in sanitary regulations not sufficiently exact and rigorous to prevent its introduction,) as to the spread of the disease afterwards, through the false notions propagated by the infectionists on the subject of medical police, and from the determination of some of these theorists to divest the yellow fever of all contagious character, however fatal may be the consequences of an opinion, the flattering gratification of the adoption of which to their vanity, they seem to think of infinitely more importance than the lives of their fellow creatures. The experience of past years, particularly in this city, [in 1819, and 1822. See my History of the latter prevalence,] has, in conformity to the foregoing view proposed by me, demonstrated that the great resource upon which the public authorities have to rely, after the yellow fever has unfortunately located itself upon any particular quarter of a populous town, is to *disperse*, as rapidly as possible, the inhabitants of that, and the adjoining, or rather surrounding neighborhood, to the distance of some hundred yards, or to half a mile or more; in other words, to depopulate entirely the part infected, as well as that around it, and then to *fence in, and guard the same*, whereby a *cordon sanitaire* is, as it were, established, and which, in fact, proves perfectly efficacious so long as rigid measures are adopted to prevent any intercourse whatever between what is thus usually denominated the *infected district*, and those healthy parts or quarters of the city into which the imported poison, or the disease reproduced thereby, has not been introduced. Thus furnishing, by the well known success which follows a rigid adherence to those rules, another most powerful argument in favor of the exotic origin, and contagious nature of the vomito, and of the necessity of a rigorously executed code of quarantine regulations.*

Instead, therefore, of believing the infectionists, or advocates of domestic origin; instead of lending, as was formerly the case, too credulous an ear to those unitarians in medicine, who maintained that yellow fever was but a variety, or modification of the great type of bilious remittent and intermittent fevers indigenous to our country; instead of reposing confidence in these absurd fictions of an inexperienced judgment and diseased imagination, the people of our sea port towns began to turn the matter over in their minds, and to think for themselves. They found, that by remaining in the cities after the pestilence was introduced, under the false belief and assurance that it was an *ordinary bilious fever*, that death stalked abroad in every direction, and mowed down his victims with unrelenting fury, and appalling mortality. But on adopting the reverse principle, of flying at the approach of this scourge, for refuge, into the pure air of the country, they found that the disease could not follow them, and that its ravages were in the same proportion diminished. Which method of impeding the march of this dangerous distemper, has since been perfected (in New-York especially) into a well-regulated system, founded and organized upon the principles advanced in the doctrine that I have propounded. Nor should we have had such melancholy proofs of the epidemic contagiousness of the vomito during recent years in Spain, if this salutary, and truly efficient plan, had been properly attended to; no more than we should have the almost annual recurrence of yellow fever in the sea ports of our southern states, Baltimore, Charleston, Savannah, &c., if there were not in those places such total negligence in the execution of quarantine laws, and such erroneous opinions prevailing respecting the true nature of the disease in question. Luckily for those sea ports nearest the tropics, the constantly unremitted high temperature of the atmosphere there, by its rarefying power, curbs the progress, and clips, in some measure, the wings of the pestilence; Providence thus, in some degree, repairing the errors that have been caused by the illogical reasonings, and reprehensible folly of those to whom she thus imparts her favors.

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* See my paper on the Diagnosis of the Plague, and Yellow Fever, New-York Medical and Physical Journal, 1823.

The peculiar feature in the epidemic propagation of the yellow fever, upon which the sanitary measure of *depopulating* infected places is recommended, contrasts the disease in this respect, in a bold and characteristic point of view, with what is observed in the progress of the plague, or oriental pestilence. Here, in this latter, from the liquid form of the contagious virus, the disease is re-produced by contact only, and with more certainty multiplied, by the facility with which it may be thus transported, in different kinds of materials, from one town or city, and from one country to another. Therefore, in the precautionary measures adopted against this disease, *seclusion*, or preventing personal intercourse or contact, is as imperiously required, as *dispersion* is in yellow fever.* For in yellow fever, from the gaseous character of the poison emanating from the persons of those affected with it, it is less easily, and scarcely ever, transmitted to distant inland places, enjoying a pure country air; not only because such gaseous matter is in more danger of being dispersed and dissipated, but because it requires for its ready propagation and transmission an atmosphere of a densely and compactly populated place, and which has been more or less deprived of its vital properties by deoxygenation from human respiration, and by the displacement which the same vital air suffers from the extrication of other gaseous matters from the body, &c. And here it would appear, that we have, from the perfect correspondence and harmony of our theory in all its parts, the links being all perfectly connected together into one continuous chain, discovered, also, the true medium through which the *specific product* of yellow fever may be most readily transmitted, viz. the *carbonic acid gas, which replaces [and this it easily does, by its greater specific gravity] the vital air which it displaces.* And what confirms, in a remarkable degree, this suggestion, are the phenomena observable during the march and course of this pestilence, the details of which are more particularly descanted upon in the concluding chapter of my work on the yellow fever of New-York in 1822. And, lastly, we deduce from these premises the rationale of the efficacy which has been derived from the use of lime, and other absorbent and calcareous matters, in depriving the air as much as possible of the material which seems to be most favorable to the epidemic diffusion of the poison. Thus do we, in some measure, also, so far as the *medium* most favorable to transmission is concerned, (and perhaps the true pathology of the disease, also,) recall to our recollection the too much, perhaps, neglected Mitchillian hypothesis of Septon, only that in the brilliant speculations of this last theory, *oxydated nitrogen* (if it may be so termed) would appear to be the assumed base of the morbific matter, or noxious principle, whereas with us it is rather *carbon*, and undivested, so far as the origin of the vomito is concerned, of the influence of an *oxygenous* principle. For oxygen, from the salutary operation it would have in assisting the decarbonization and dehydrogenation of the blood, could not possibly be thought to be implicated in the production of this disorder.

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* See, in confirmation of this, Sir A. B. Faulkner's able work on the plague of Malta.

Though it be the acid, therefore, united to the carbon, which constitutes the medium most favorable for the transmission of the specific virus of the disease, the proximate cause itself of the disease would seem, from the combined results of our experience and researches into this subject, to lie, not in any oxygenous or acid principle, as the Septonists and infectionists suppose, but in a *redundant quantity of carbonic matter in the blood.*

P. S. TOWNSEND.

New-York, January, 1831.

NOTE I.

DR. WILLIAM STEVENS, in his late essay on the blood, already referred to, (see the first number of this journal,) ascribes the black color and dissolved state of the blood, in yellow fever, to the almost total absence of *saline* matter, though, with a remark somewhat contradictory, he admits it to be the solvent of the fibrin. It is, however, obvious to all persons who have at all noted what takes place in the West Indies, that it is owing to these very saline matters, which form so large a proportion of the food of the tropics, (muriate of soda, sugar, &c.) that the blood of the inhabitants of those regions is so much more attenuated than in cool latitudes. And is it not also well known to the most inexperienced chemist, that saline substances are the great solvents of inspissated liquids, and also of solids, with which they have an affinity; and that from the intense action of this *solvent affinity*, results the refrigerating power of these substances, from the quantity of circumambient caloric which it is necessary for them to absorb, to effect the more perfect solution of the ingredients with which they unite? The use of saline substances, also, to excess, Dr. S. should have recollected, produces that very dissolution of the blood we see in scorbutic diseases, so common in intertropical countries, and the symptoms of which, so far as capillary hemorrhage is concerned, are by no means unlike those of the vomito—a remark first made, I think, by the acute and learned Mitchill, and afterwards repeated by me, in my work on the yellow fever of New-York in 1822. It is, nevertheless, doubtless true, in conformity to the conjectures of Dr. Stevens, that the blood of the northern man, suddenly coming into the tropics, is comparatively destitute of those saline matters which seem to be the safeguard of the acclimated inhabitant of the tropics against the attacks of yellow fever. If the blood of the former could, on his arrival within the tropics, be immediately associated and blended with these natural solvents of its proximate principles, the system would doubtless be protected against the disease. But this change cannot *suddenly* take place without producing the consequences already described, viz. *sporadic yellow fever*. Is it, then, the presence of a redundant quantity of *carbon*, which, in the northern man, causes, in yellow fever, this unnatural and extraordinary dissolution of the blood?

There is much left for conjecture, and future speculation and research, in all that relates to the interesting department of what may be called chemical pathology—a route which has hitherto been but little travelled, and by none more successfully, or with more ingenious results, than by Dr. Stevens, whose acquaintance I have recently had the pleasure of making, since this publication was put to press. In a conversation with that gentleman, I find that he attributes the dissolution and black color of the blood in yellow fever *entirely* to the *absence* of *saline* matters; while I maintain, on the other hand, that these liquefactive, antiseptic, and refrigerating ingredients, though comparitively wanting in the rich, thick blood of the northern man, and absolutely requisite to preserve the blood of the inhabitant of the tropics from putrefaction, and to capacitate it for circulation through the vessels, owes its black color and greater viscidity in the northern organization, to a superfluous quantity of carbon—superfluous, I mean, as well as inimical to, and incompatible with, the existence of life under the heated atmosphere of the torrid zone.

It is, then, perhaps, the partial decomposition, as it were, of the proximate elements of the blood, and the separation, as well as admixture of its carbon with the general mass, that causes the *unnatural dissolution* of this fluid, which is observed in the vomito; which dissolution, being unnatural, and brought about, as it were, by a convulsive movement, (connected, perhaps, in some way with the repellant or *electric* agency of a high degree of caloric,) is too apt to prove destructive to the life of the individual who is the subject of it; whereas, the *natural solution* of the blood, obtained by the acquisition of the saline matters with which the general character of the food in the tropics impregnates it, after a certain residence in these latitudes, is, on the contrary, of a conservative tendency. And Dr. Stevens will be willing to admit, that though I agree with him, that the impregnation of saline matters is a powerful solvent of the blood, this does not prevent that there may be *other* solvents, and that *carbon*, perhaps, is that solvent, and the principal one, in the instance of the sporadic vomito, to which persons of northern constitution and organization are so subject, on their arrival in intertropical countries. Nor can I agree with him, in supposing that carbon, as it exists in the venous system more particularly previous to its extrication through the lungs, is in a state of *carbonic oxyde*, for that would preclude, in some measure, the very function which it is almost universally believed the pulmonic apparatus is called upon to perform. The apparent identity of the uncoagulable catamenial blood with that of the vomito, would seem, in my opinion, to throw additional light upon the subject. For we will bear in mind, that this catamenial or *per-carbonated* blood, as it may be called, when retroverted upon the uterus, after conception, goes to the sustenance of the child, whose lungs, being required to be dormant and unemployed, seem to need the presence of some such mephitic principle as carbon to paralize their movement, and to produce, as it were, a temporary state of asphyxia, during utero-gestation.

NOTE II.

The matter of febrile contagion becomes powerfully concentrated, and acquires increased intensity, when confined in those substances which have the power of absorbing or retaining it. In this state or condition, it is not only augmented in virulence and activity, but may be with facility preserved and transported to great distances, without undergoing any material modification. Both plague and yellow fever are, therefore, frequently introduced by fomites, and the latter also through the medium of morbid emanations from the living body, which, however, from their fugacious and unconfined state, are extremely subject to alteration, dispersion, or decomposition. By the insidious form in which these diseases may be transmitted, the door is opened to imposture and misrepresentation; and hence the garbled statements, and obscure and contradictory testimony, which so often embarrass us in our attempts to detect and trace the mode of their introduction. The natural difficulties which belong to these investigations, are rendered formidable by the veil which cupidity and chicanery interpose to conceal or misinterpret the truth.

The virus of plague being of a nature so extremely liable to alteration under an elevated temperature, that it cannot be developed in the tropics, or subsist except in the milder latitudes of the temperate zone, is rarely or never propagated to any considerable distance except under the form of fomites. Though usually confined, by the intimate relationships of commerce, to maritime situations, it spreads, when disseminated by the co-operation of this virulent medium, and when not circumscribed by quarantine restrictions, into the interior towns, as well as along the sea ports of Europe.

The peculiar properties of the virus of this pestilence, explain, likewise, why the system of expurgation applied to infected merchandise, clothing, furniture, &c. has been found the most certain and efficacious method of preventing the introduction of the disease, and, together with the system of seclusion, and prohibition of personal contact, one of the most powerful means of arresting its progress.

On the other hand, the contagion of yellow fever is capable of being diffused through the air, and of sustaining a high temperature, without parting with its power of reproduction.. While the contagion of yellow fever is totally and immediately destroyed or decomposed in a freezing temperature, plague has been known to extend its ravages through winter, and when the surface of the ground was covered with snow.* Both, therefore, are restricted within fixed thermometrical limits; but that of plague being at the lower extreme of the scale, the most natural form or condition in which its virus exists, and in which it possesses most activity, is probably that of a *fluid*, being, however, like many other fluid substances, subject to volatilization, or perhaps decomposition, by very slight accessions of temperature. This is strengthened by the fact that plague is rarely or never communicated except by direct contact with the human body, or with infected fomites. But the contagion of yellow fever partaking, in its natural state, of the character of a *gaseous* substance, cannot, perhaps, be reduced to a more concentrated form by any temperature above that of congelation, at which point we know it undergoes decomposition, or, to speak with more caution in the present uncertain state of our knowledge on this subject, becomes inert. As the secreted poison of yellow fever invariably loses its contagious properties at the freezing temperature, it is most reasonable to suppose that water forms one of the most considerable and essential elements of its composition; and that a humid atmosphere, therefore, must, as we know it is, be favorable to its transmission.†

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* "It is but a few years since the mortality by this disease at Constantinople, exceeded 2000 daily, and at that fatal period the streets of that capital were covered with snow." *Tully* on the Plague of Malta, Corfu, &c. p. 18. The plague prevailed also at Moscow, during the winter of 1770. *Mertens.*

† See the Abstract of the Meteorology of New-York for thirty years, in the Appendix to my History of the Yellow Fever of New-York in 1822.

If our assumptions be true, we are provided with a clue to many of those phenomena attending the introduction and progress of yellow fever, which may have hitherto been thought inexplicable. Thus the natural *ariform* condition of this virus does not prevent it from adhering to, and becoming entangled and secreted in bibulous substances, favored perhaps by some certain affinity for these matters, or by what will, in all probability, ultimately be found to be true, that its specific gravity is greater than atmospheric air; which would also help to account for the well-known fact, that the lowermost part of the holds of infected vessels and houses, is that where the contagious poison is most abundant, and most virulent, and, therefore, most difficult of purification. Now, to make a parallel case to what often does happen when the contagious virus of yellow fever is introduced or communicated under the concentrated form, let us suppose the substances to which it adheres to be exposed, 1. To free ventilation; 2. To immersion in some fluid; or, 3. To a high degree of heat. The result would be, that in the *first* instance the gaseous matter would be more or less driven off by the mechanical impulse of the air. In the *second*, or process of immersion, it would probably be entirely expelled,* while, by the *third* method, or application of caloric, its rarefaction, and consequent dispersion, would be also effectually accomplished. Hence the extreme and continued heat of the tropics is less favorable to the *introduction* and *extension* of yellow fever, than the summer season of temperate latitudes.

And hence, also, *a fortiori, fomites*, in the form of infected clothes, closely confined in trunks or chests, or in that of bales, and boxes of merchandise, or other articles shut down under the hatches of vessels, become, by the mechanical concentration, confinement and compression of the poisoned air with which they are imbued, and the acrid intensity which it thus acquires, the most virulent medium of transmitting this disease, and the most fatal form in which it can be received into the system. It is obvious, however, from what has been said, that this state, in which the virus is frequently found, and which is that under which it is often introduced, is more the result of accident, than the natural tendency or condition which it assumes. On the contrary, being, by its gaseous nature, diffused into the air in proportion as it is emitted from the body, it is, by its mobility, constantly liable to alteration, dilution, and dispersion. From whence it happens, that notwithstanding the proximity of the United States to the tropics, and their unlimited intercourse with the West India Islands, where the yellow fever is most prevalent; notwithstanding, also, its almost weekly importation into our lazarettoes, in vessels coming from those ports, and that our atmosphere, and other circumstances, so often favor its propagation, the contagion rarely extends beyond those insulated foci; but when the spark does kindle, and the conflagration spreads, it is (unlike plague) almost exclusively restricted to sea-port towns, and those maritime situations which have had immediate connexion with the imported sources of the pestilence.

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* In the yellow fever of Barcelona in 1821, the most effectual method of destroying the contagion in infected vessels, was by immersion. Vide the Report of Messrs. Bally, Pariset, and Francois. Whether the efficacy of this process consisted in the mechanical expulsion of the poisonous gas, or that it was first absorbed by the volume of water, and thus rendered innocuous by dilution or decomposition, is not so easy to determine. Both may be the correct explanation.

We are thus enabled to comprehend, also, why the morbid emanations from those who labor under the disease in spacious ventilated chambers of hospitals, so rarely transmit the contagion to the physicians and attendants employed about their persons.

While, on the other hand, we learn, by this same facility with which it is disseminated in the air, how this element, when infected to a certain degree by an aggregation of sick persons within a small compass, or confined space, becomes a most powerful, rapid, and dangerous conductor or vehicle of contagion.*

The fact, that the virus of yellow fever, unlike that of plague, can very rarely be conveyed in the form of fomites, unless such articles are shut up from the external atmosphere, makes it still more probable that the contagious matter of this disease is of a gaseous nature, and that when existing under this form, it is not, as some may suppose, dissolved in, or blended with, the excretions from the body with which such articles may have become impregnated, (unless it be with that part of such excretions as are also gaseous,) but contained in the air which they enclose in their pores or spongy texture.

As the contagious poison of yellow fever, therefore, is peculiarly prone to assume the æriform condition, while that of plague exists, perhaps, only in the state of a fluid, it is by no means strange that the Egyptian pestilence, possessing, as it does, this more concentrated and virulent medium of reproduction,† should prove to be more sudden in its attack, more diffusible through the fluids, and more mortal in its termination, than the virus of yellow fever.

The parallel between these two different forms of contagion, affords us the consoling assurance, that the severe extremes of heat and cold by which the climate of the United States is contradistinguished from the parallel and temperate latitudes of Europe, as well as its remote position,* will, perhaps, in some measure, protect it from the introduction of the plague.

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* As in the compact and densely populated cities of southern Europe, where the mortality of the disease has been proportionably more rapid and destructive in its march than has ever happened in the sea ports of the United States, constructed upon a plan entirely different, occupying, in comparison, a much larger surface of ground, and pierced, for the most part, by spacious streets, through which there is constantly a free circulation of pure air.

† Like the poison of rabies canina, the prussic acid, and most deleterious substances in a liquid state.

The peculiar laws distinguishing the contagion of plague and yellow fever, will be found to serve as a guide in the prosecution of such measures as are best calculated to arrest the progress, and prevent the extension of those diseases, in places in which they may have unfortunately been introduced.

Those sanitary regulations most approved of by the experience of later years, and which have proved most effectual in controlling, or exterminating the plague, are founded on the principle of *seclusion.* Those, on the contrary, which are most efficacious in suspending the epidemic march of yellow fever, are founded on the principle of *dispersion.*

1. In the former, or plague, the infected† places are encircled with cordons of troops; each habitation is turned into a temporary prison, the occupants of which are prevented, by sentinels placed over them, from leaving, under any pretence whatever, the apartments of the tenement in which they reside: to execute which measures with more efficacy and certainty, guards are made to patrol the streets, and persons employed to supply, at different hours of the day, the incarcerated population with provisions, and to bolt and bar the doors of the houses at night, to prevent their escape. Under this martial regime, personal communication and contact with the infected, or suspected, is effectually intercepted, and the disease almost instantaneously annihilated. The efficacy of this system, perfected under the administration of the British government during the recent prevalence of the plague at Malta, and the Ionian isles, was, on these occasions, fairly put to the test, and demonstrated beyond the possibility of refutation.‡

The great object in view in contracting the boundaries of this disease, is, to prevent as much as possible the *dispersion* of the population; for the *pure air* of the country *does not destroy* or neutralize the poison of plague, and every individual, therefore, who flies for security into the interior, carries with him the seeds of the disease, and endangers the lives of those who give him shelter.§ That the virus of plague is not acted upon by, or diffused through the air, is manifest from the fact, that those who are appointed to guard and provision the inhabitants, and to escort the sick and dead bodies, and infected articles, to the lazarettoes, depots, and burial grounds, though approaching within a few yards or feet to the objects intrusted to their charge, have almost universally escaped; while the *forzati*, or convicts, who were compelled by law to remove and *handle* the dead, the expurgators of infected goods, and the attendants upon the sick, too often perished in the hazardous vocation to which they were assigned.

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* The contagious matter of plague appears to be more readily transmitted on land, than over the sea; in the latter case, being, probably, from some unknown chemical or electric influences, more susceptible of decomposition than the materies morbi of yellow fever.

† *i. e. Infected* with the contagion of this disease.

‡ See Sir A. B. Faulkner on the late Plague of Malta, and Tully on that of the Ionian Isles.

§ In the instance of the village of Curmi, in the plague of Malta, the inhabitants proving refractory to the prohibitory measures which had been adopted, were, in addition to cordons of troops, surrounded also by a *temporary wall.* Vide Tully, ib.

2. How different is a scene like this from that which is presented in the sea-ports of the United States visited with yellow fever! The affrighted population have learned, from too many mournful lessons, that their only safety is in flight. A poison which is borne on the wings of the air soon enlarges its dominion. Not only the houses of those parts of the town in which cases of the disease have existed are totally abandoned, but, for better security, those, also, are evacuated which stand on the confines of the infected district, in order to encircle the diseased neighborhood with a zone of pure air broad enough to resist the assaults of the pestilence, and to weaken and destroy its virulence. The more the fugitives are scattered and dispersed into the open fields of the country, the less the danger, for the pure air soon dissipates, or decomposes, the poison which they may carry in their persons or effects.

No impediments are thrown in the way, to obstruct their retreat, but every facility given to depopulate, as expeditiously as possible, every spot in which the disease may be supposed to lurk.

The history of the two last visitations of yellow fever with which New-York has been afflicted, viz. in 1819 and 1822, proves that *dispersion* is the most powerful means with which we have hitherto been made acquainted, for combating the march of this disease.

It has been found, also, in correspondence with the view we have taken of the nature of this contagion, that, generally speaking, little danger is to be apprehended from the furniture, clothing, bales of merchandise, or other articles removed from infected to uninfected places, provided such articles do not constitute the actual apparel or bedding of those who have been sick or died of the disease.

There is generally more danger to be dreaded from the persons of the sick, than from any other cause; for if these be congregated together into a confined space, so that the air, corrupted by the emanations from the sick, may become, as it were, a *nidus or matrix for the incubation of the contagious germs*, they will almost inevitably constitute new *foci* of the disease, in which manner yellow fever, like other contagions, (but particularly in a manner analogous to the laws which govern the communication of typhus,) may be propagated to an indefinite extent.

May we not hope, in the brilliant career of chemical philosophy, that our knowledge of the agency of atmospheric air, and of a freezing temperature on the materies morbi of yellow fever, may ultimately lead to a discovery of its constituent elements, and to the means which may be employed to weaken or neutralize its virulence upon the human constitution.—*Extract from an article on the diagnosis of plague and yellow fever, by P. S. Townsend, N. Y. Med. & Phys. Journ.* 1823.

TOPOGRAPHY OF HAVANA.

Havana is situated upon a gentle ascent on the north side of Cuba, in latitude 23° north. The gulf stream, which passes through the strait that divides the island from the coast of Florida, approaches so near to Cuba that it washes the foundation of the Moro Castle at the entrance of the harbor. The streets of the city, though narrow, (which has the advantage of making them shady,) are, in dry weather, not incommodious. Many of them are paved with small round stones, and many of them have narrow side walks of flat stones, which convenience is, however, but an apology for side walks. The houses, if they were higher, (being but of one story,) would, it is true, make more shade; but then, perhaps, what would be gained by this would be lost in ventilation, which is of much greater importance to health in so hot a latitude as this, than in the cooler latitudes of the south of France and in Italy, where the great height of the houses, and extreme narrowness of the streets, (much narrower than at Havana, some of them being not over 8 or 10 feet[a] wide,) are a sufficient protection against any degree of heat that those countries may be liable to, though the comforts obtained from this arrangement are alloyed by the inconvenience of a more compact and crowded state of the population, and the greater facilities which are thus given to the propagation of epidemic diseases. As we have seen in the plague of Marseilles, the yellow fever of Cadiz, Barcelona, &c., in all of which places the desolation made by contagion has been augmented to an incalculable amount by the confined state of the population, crammed together into small apartments in the same building, in numbers totally disproportionate to the space they occupy, and in a condition utterly incompatible with the preservation of health. Havana, then, has the advantage in salubrity, over these places:

1st. In being situated within the tropical latitudes, where, from the extreme degree of heat, the inhabitants are necessarily obliged to have their doors and windows open constantly, to admit of free ventilation, by which means the air in the apartments is never stagnant or impure.

2d. In having the walls (even the partition walls of the houses,) from *two* to *four* feet thick, of stone, and the roofs either flat and stuccoed, or inclined, and composed of massive grooved tiles, resting on a thick layer of mortar of several inches thickness upon the plank which covers the rafters, by which construction the heat cannot penetrate sufficiently into these substances to have any effect on the atmosphere within; and also, in having the ceilings of the apartments unusually high, (from 20 to 30 feet,) as well as the doors and windows uncommonly large, resembling those of a prison, and extending nearly to the roof; the windows especially, sombre in their appearance, from being protected only by strong, perpendicular iron or wooden bars in place of window frames, outside shutters, or glass; in all of which particulars, the manner of building in Havana seems, in some measure, peculiar to the place, and better calculated to keep the apartments cool and healthy, than in any other part of the West Indies I have visited. The floors are also of stone.

3d. In having a far less number of inhabitants occupying each house than is usual in most countries, and particularly small, when compared with the cities of southern Europe.

In this place a good deal of the vomito prevailed in June, which was dry and very hot, and in the three first weeks of July, when the weather was similar, the thermometer, F., in both months, ranging constantly, night and day, between 80 and 86, and in some parts of the town, especially on the quay, on whose broad plank wharf (where the vessels are moored as close as possible, with their bows on about 3 or 4 feet apart,) the sun beats down with extreme power, and raises the temperature frequently much above 86, (probably, sometimes to 120 or 140 deg. F.,) especially before the sea breeze or trade wind in the forenoon sets in. The same remark of a more elevated temperature may be applied to the opposite side of the harbor, about half a mile from the city, where numerous vessels that cannot be accommodated at the small space of 2 or 300 yards appropriated to the wharf, (all the rest of the circuit of the harbor in the city being occupied by barracks and a fortified wall,) are obliged to moor and load. The vessels of war also, lie in the harbor a little higher up. This accumulation of heat is still farther augmented to a great degree, by the high and almost perpendicular precipice or bluff of 200 feet or more elevation on the east side of the harbor, and on the crest of which the remarkable fortress of the Cavana (remarkable by its extreme length of a mile or more) is situated, and which, from the narrowness of this part of the harbor, which may be called its neck, (not more than a quarter of a mile wide,) almost overhangs the city. The greater part of the city lies on this entrance, the shipping being ranged exactly at the point or angle farther in, where the harbor begins to expand. The shape of the harbor is a long oval, like a gourd or bell-pear, with a narrow, long neck; breadth of the oval about a mile and a half, and length from three to five miles. The high land on which the Cavana is situated, is connected with an amphitheatre of hills around the entire circuit of the harbor, which, though rising by an inclination less abrupt, form, at the distance of a half mile from the shore, a complete enclosure, which, more or less, impedes the progress of the winds coming from that quarter, already heated by the southern latitudes, where they have originated, and by the land of the island over which they have passed. The only place for their free admission being the mouth and entrance or neck of this basin, which, very luckily, is in a N. N. W., or nearly N. W. direction, and admits the cool and refreshing northers, that come across the gulf of Florida from the American shore. This and the trade winds are redeeming circumstances, which tend to purify the atmosphere of this city, and make a residence here, even at this hot season, more cool and agreeable than many places farther north; especially if it is opposite the Moro Castle, or on the high ground of the suburbs on the sea, running from the Punta or point opposite the Moro, in the direction of the Paseo or public walk, outside the city wall and gates. The thermometer, indeed, in the suburbs which are almost entirely located upon this elevated ground, which looks upon the sea, and is about forty feet above its level, is, according to the observations of Mr. Sagra, (as communicated to me,) three or four degrees lower or cooler than in the city, except in those parts of the latter, situated nearly opposite the Moro, and which, though low, have the same exposure to the ocean.

During July, a Spanish 74, which had been lying in the harbor for several months, (the crew chiefly Spaniards of old Spain,) is said to have buried 160 cases of vomito in two days, though the fact was kept as much as possible a secret. Whether this mortality was owing to defective police in the Spanish vessels of war, to mal-treatment of the disease, or to what cause, I have not learned.

The disease, as usual, has been particularly prevalent among the crews of all vessels from the Baltic and north of Europe, from Great Britain, and from the northern parts of the United States; from which last, especially from Portland, in Maine, numerous vessels are constantly arriving, in the trade of lumber and molasses—the straightened condition of the commerce of New-England, added to the maritime enterprise and natural cupidity of that part of our population, bringing them into this flourishing port at all seasons of the year, reckless of danger where a livelihood is to be obtained. The Hamburg vessels, from Germany, also suffer very much, and, as has been remarked by others, the mortality of the vomito to the new comer from the cooler latitudes may be said to be in an exact ratio to the distance from the equator of his place of nativity and residence—those of the higher latitudes always being most obnoxious to the disease.

It may be noted, that the large military and marine force kept here by the mother country,—some 25,000 troops, or more, for the island, and two or three seventy-fours, and a proportionate number of frigates,—all coming from old Spain, and most of the soldiers from the *northern* part thereof, and therefore more liable to black vomit, furnish an inexhaustible supply of pabulum to the production of this disease.

The government of Spain, too, with her usual improvidence and want of foresight and economy, seem to be forgetful that Havana is the very hot-house and focus of the distemper, for vast numbers of the soldiers and marines are sent here at the hottest season. It is true, the former are generally sent back into the interior of the island, but here they are almost equally exposed to be taken down, when the nature of their constitution, submitted to the action of a tropical sun, is considered, especially if they are in confined barracks. Generally, however, those sent into the interior escape black vomit. Not so the poor sailors, who, shut up below decks in the hot harbor of Havana, soon generate an atmosphere peculiarly favorable to the developement, as well as propagation, of this disease. Hence the mortality which has occurred on board these vessels this very summer, and so it has been, and will be always under the same circumstances.

In respect to the geology of Cuba, it may be observed, that besides several spurs and chains of mountains, of calcareous and secondary formation, and masses of steatite, the soil is universally of a rich vegetable mould, of a deep red color, from the ferruginous clay with which it is impregnated; and that the foundation of the whole of the island apparently reposes on a secondary soft coral limestone, dry, porous, and bibulous in its texture, and the same as that which forms the Bahama groupe.* As it is this, therefore, upon which Havana, as well as the renowned fortresses of the Moro and Cavana stand, and as all the buildings are constructed of it, and the streets paved with it, the atmosphere is doubtless made in consequence more pure, from having much of the deleterious matters, and exhalations which it contains, absorbed and neutralized by this mineral substratum; which mineral must of necessity, from its calcareous nature, have an affinity for the aqueous menstrua in which these deleterious matters referred to are supposed to be dissolved.

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* See my memoir on the Bahamas, New-York, 1826.

All these peculiarities in the natural as well artificial condition of Havana, are sufficient to account for the *peculiar salubrity* of this city; for, notwithstanding the vulgar opinion to the contrary, there can be no doubt that this town, so calumniated abroad as the cradle of the vomito, and the grave of foreigners, is one of the healthiest localities in all the West Indies. It is rare, indeed, that any thing of an epidemic or fatal character is ever heard of at the Havana. All the mortality that exists here arises from yellow fever, or black vomit, and this occurs among the shipping only, which throng to this place from all parts of the world, sometimes almost filling up the whole space of the harbor. The yellow fever, almost the only disease known at Havana, is an affair altogether confined to foreigners themselves, and has nothing whatever to do with the salubrity of Havana. Because there is an incompatibility in the climate of the tropics with the animal organization, as it exists in cold latitudes, and that these two circumstances or conditions, when they come into conflict, create a disease fatal to foreigners, we ought not, therefore, to impute this consequence to the insalubrity of Havana, since one of the elements, or primitive conditions, necessary to the production of this distemper, must come from a distant part of the globe, and from a climate wholly different and even opposite in character to that of the equatorial latitudes.*

There are some circumstances which may be supposed to have a contrary tendency to those we have enumerated in favor of the healthiness of this place.

1st. *The water*, which is supplied from small natural streams, coming from the more elevated ground, outside the walls. It is of a sweetish, mawkish taste, and is impregnated, I should judge, (not having analyzed it,) with the vegetable matters through which it percolates, and which it must be constantly absorbing the whole year, in this climate of perpetual verdure; and, perhaps, also imbued with the marine, animal, and mineral matters, derived from the limestone rock, where it runs over that substance.

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* This is the opinion, also, of Dr. Hosack, long since maintained by him, and the one which has generally been adopted by the common sense of the world.

For it must be observed, in reference to this rock, that though consolidated, the remains of marine animals are still visible in its substance, as may be seen along the shelving precipices of the sea-shore, where those who have a passion for mineralogy, and wish to behold petrifactions on a scale commensurate with their enthusiasm, will be delighted to find themselves walking over brainstones of nearly two feet in diameter, and favolites, celleporites, and madreporites of proportionate dimensions. These remains, together with some few shells, perhaps, (for they are scarcely seen here,) form the coral rock or limestone of Havana and its vicinity. The animal matter which this rock must contain, by its coral origin, together with such saline or other substances as may be derived from the sea water itself, constitute the ingredients with which the rock is impregnated: a portion of which, according to the supposition here presumed, is imparted to the water. What inclines me more to the belief, that there is some marine impregnation derived from the rock, is, that this mineral, when burned for limestone, as it is in the kilns all along the shore near Havana, communicates to the atmosphere a strong and pungent odor of chlorine, which is perceptible at the distance of some miles at sea; and which is very similar to the taste of the water. These observations do not apply to rain water caught upon the flat terraces of the houses, and preserved in tanks, and which many private families use, in preference to the disagreeable water from the fountains.

2dly. There is yet another circumstance not depending, however, on natural causes, which may, also, be detrimental to the health of the inhabitants. It is the almost *universal* and *constant* practice of smoking segars; a practice acquired as soon as they leave the cradle; and one which has spread by the influence of bad example and imitation into all ranks and classes of society, from the officer of highest rank, and from all the dignitaries and noblesse of the place, down to the humblest negro slave in the streets. Females too, have caught the contagion, and it is not unusual to see, even respectable young ladies amusing themselves with their segars, a habit which, though they have not had the resolution to resist, it is evident they, themselves, must disapprove of, from their endeavouring to throw over it, as it were, a veil or apology, by smoking tobacco wrapped up in tubes of white paper, (paper segars,) instead of the raw segar itself, manufactured from the fabrique of Dos Amigos or Sylvia.

It is true that the indolent disposition of the Havaneros, and their fondness for sleep, (though they are never or rarely luxurious or intemperate in their habits of eating or drinking,) produce a torpor in the digestive organs, and particularly in the lymphatic system, which through defect of absorption, favors deposition, effusion, and corpulency, and obesity, for which last peculiarity these people are remarkably conspicuous, especially the women, from their excessive indolence, (sleeping the greater part of the twenty-four hours in their loose gowns,) and their practice of taking enormous draughts of water, lemonade and mild drinks, which fill up and distend the vessels.

It is true that where this inactivity exists in the circulation of the fluids, it is in temperaments in which there is generally less liability to pulmonary disorders; though it is equally certain, that the habits of the Havaneros, as just described, must favor obstructions in the lungs, as well as the liver and other organs. Thus may be laid the foundation of phthisis upon the application of some exciting cause, as the changes of temperature, damp and cool season, &c.

At Havana, strange as it may seem, consumption is one of the most common diseases to which the natives are subject. And I know no more prolific source to which to attribute a peculiarity so novel in a West India latitude, than the detestable practice of carrying constantly in their mouths, (one half or three fourths of the population,) a segar, from morning to night, and the excitement and increased secretion thereby produced, if not in the lungs themselves, certainly in the mucous membrane of all the passages in their vicinity. The currents of cool air from the sea, and the humidity of the atmosphere, do also, doubtless. contribute—for though the changes of temperature are never great or very sudden, the depression of the thermometer one *degree* only will (from the augmented sensibility of the nervous system in these latitudes, especially in the debilitated constitution of persons leading the life of the Havaneros) produce as great an effect upon the system nearly as *ten* degrees, for example, at New-York, upon the more vigorous constitution of an inhabitant of this city, the diurnal range of the thermometer at Havana not exceeding, usually 4 to 5 degrees, whereas at New-York, it is frequently depressed suddenly from 20 to 30 degrees in as many hours.

To the above causes of the comparative frequency of phthisis in Havana, may be added one more powerful than all the rest, perhaps, as I am informed by a distinguished gentleman of this place. I mean the disgusting and pernicious practice of onanism or self-pollution, very common, he says, among young persons of all classes at this place.

Respecting the supposed domestic origin of yellow fever from animal and vegetable putridity, of which so much clamor has been made in the United States, there are at Havana more abundant and concentrated sources of these materials, than can be found in almost any city of our own country. This might naturally be expected in a hot climate, where all organic matter is constantly on the verge, as it were, of putrefaction; and where the putrefactive process, when begun, seems to present a higher degree of malignity and putridity. Along the narrow streets, within a few yards of, and parallel or transverse to the wharf, these substances are often collected in great abundance, as well as in the broiling sun upon the wharf itself. They consist, in the hot season, chiefly of imported *onions and potatoes*, often in a rotten state, and emitting an odor more intense and offensive than any I ever encountered. In the stores where these matters are, and in the streets, though these putrid vapors are constantly operating upon the Creoles, strangers, and others, who live or pass there, *no case* of yellow fever ever occurs, nor does any one pretend to attribute the disease to such sources, any more than they do to the mud itself, or to the animal and vegetable filth floating under the planks of the wharf or quay. For that part of the wharf which is of plank, and where the shipping lies, has the water of the harbor, and all the filth which it necessarily contains, in this spot, constantly floating under it. Over and on these plank, forming a long, wide platform of three or four hundred yards long, fronting the custom house, &c., the negroes are employed unloading the vessels, and the merchants constantly passing and repassing with the captains of the vessels, giving directions or going on board their ships, as they almost all live on board, that being most economical.

It is true, that in many instances, the crews are dismissed on arriving in port, especially in those vessels with jerked beef or other commodities which have to lie 60 or 90 days for the cargoes to be disposed of in detail; but in many, all the crews remain. It may be remarked that the planks of the quay are so laid down as to admit of large crevices between them, often more than half an inch, and in some instances, near an inch wide, through which the water underneath may be seen, and through which an admirable opportunity is afforded for the steams from *black putrid mud, and animal and vegetable offals, rotten fruit, vegetables, fish, and excrements from the vessels and streets*, to ascend, and affect, if possible, the health of the crowds of white and black constantly employed upon this busy and bustling part of the city; especially in the fore part of the day, when the number is greater, and when the sun beats down, and is reflected from this white surface, with extreme violence; the thermometer probably, often rising to 120 deg. F.

Here, also, let it be remembered, in the afternoon, when the sun is off, and just before dark, persons of every description, particularly strangers and foreigners, those who have resided here for years, as well as those just arrived from cold climates, come constantly every evening to walk, when the bustle of business having ceased, this place furnishes a most agreeable promenade, deducting always the odors with which the nose is offended, such as those mentioned, together with *tar*, *bilge-water*, &c. &c. Now, where, I would ask, in this hottest season of the year, where there are always lying unloading thirty vessels or more, almost in close contact, (ships, brigs, and schooners,) and where the much talked of sources of domestic origin, animal and vegetable putridity, exist in an extreme degree of abundance, and at the highest point of concentration,—where, I repeat, could be found a spot more admirably calculated to generate, in prolific profusion, all the required elements of yellow fever, such as they are presumed to be upon the ideal hypothesis to which we have alluded? Yet here, scarcely ever a case of yellow fever occurs, and scarcely ever is one traced to this spot, or if it does, it is on board some vessel at the wharf. If it were otherwise, or if there were any apprehension of unhealthiness here, it may well be imagined, that it would not be a place so much frequented. What is a still more difficult problem for the *putrefactionists* to solve, is a fact which I am now going to relate. The vessels, while discharging here, rarely or never have sickness on board; in those with jerked beef, for example, from South America, however putrid it may be, until they are empty, and go out to anchor in the stream at the distance of half a mile or more from the wharf. To all this may be added the masses of vegetable filth especially which collect in the market squares within the city, the jerked or other beef, fresh and salted, and the animal and vegetable substances deposited in the different stores in the narrowest streets, for they are all narrow, and their situation generally low, most of the town lying at the foot of the hill on which the walls, gates, and suburbs, are placed. The presence of these substances is particularly palpable, to the stranger especially, whose olfactories are perpetually assaulted by the exhalations which proceed from them, while passing through the streets, especially from the jerked beef, salted codfish, onions, potatoes, &c. Nor, after all the importance the great controversialist, Bancroft, attaches to vegetable filth, can we find any yellow fever or black vomit derivable from these supposed pregnant sources and fountains of mischief, in a densely populated compact city, under the broiling temperature of an equatorial sun.

In addition to what has been already said on predisposition, and a northern constitution, I have here to observe, that it is positively affirmed, that persons who reside on the plantations of the island, on coming into the city at this season, take the yellow fever and black vomit, and generally die of it. I have accounted for it from the elevated position of most of the plantations, and the coolness of the temperature, which, on some of them, is often, even at this season, as low as 69° F. a part of the twenty-four hours; but, above all, from the *purity* of the atmosphere itself, which, notwithstanding the observation of Gay Lussac, that the atmosphere, in every spot of the earth, contains precisely the same proportions of oxygen and nitrogen, he himself must admit may be surcharged, in one place, with more unwholesome gases, than in another, and, therefore, must, in such places possess, under the same bulk, less atmospheric air. Consequently upon these plantations from the abundant quantities of oxygen extracted by plants during the day, a greater proportion of vital air, and, therefore, a greater proportion of oxygen must be respired, than in a city like Havana, filthy in itself, and, in addition to this, crowded with a dense population, the number of inhabitants within the confined space of the walls (*i. e.* an oblong of a mile in length, by less than half a mile in breadth) being about 70,000. For, under the latter circumstances, not only is a certain portion of the atmosphere displaced by the more ponderous carbonic acid gas, and nitrogen, returned into it by expiration, but in addition thereto another portion is displaced by the exhalations of animal and vegetable matter, living and dead, which exist in such abundance in such places. Therefore, the air inspired by the inhabitants of such places, must, notwithstanding the opinion of so justly distinguished a philosopher as Gay Lussac, contain, under the same bulk, so much the less oxygen and nitrogen, in the exact proportion to the quantity of atmospheric air displaced by the gases mentioned. Thus, then, do the inhabitants of the plantation, and the *monteros*, or small country farmers, acquire, in the purer air they live in, a constitution which, in some measure, resembles the nature of the north by the higher degree of animalization of the blood. For it must be recollected, that the native of the northern or cooler latitudes, owes the peculiarity of his constitution greatly to this circumstance, and that it is attributable, not only to the great proportion of animal and oily food which forms his nutriment, but to his breathing, during the greater part of the year, a much denser atmosphere than the ethereal, rarefied, and gossamer element of the tropics, and one, therefore, which contains, under the same bulk, a much greater proportion of oxygen and nitrogen. It is this state of the organization which forms, as it were, the tinder, or combustible matter, ready to be acted upon whenever it comes suddenly in contact with a high tropical temperature.

The question, however, will still be asked, why is not the peculiar predisposition of the northern man acted upon by the summer heat of his own climate, as in Philadelphia, New-York, and other cities of the United States, sufficient of itself to produce yellow fever, without going to the tropics. We again repeat, because, though there is never that steady, long-continued elevation of temperature through every part of the twenty-four hours, for days, weeks, and even months successively, as in equatorial countries, and which is indispensably necessary for the development of the disease in a northern constitution, in other words, to ripen and mature the seeds of yellow fever in a soil so peculiarly adapted to it; yet the heat of our northern cities may, for a portion of the summer and autumnal season, be sufficiently intense, and in sufficient amount, to allow of the propagation of the pestilence by contagion, after it has been introduced. In the same manner, as the distinguished Dr. Hosack has remarked, though our climate may not have in it the qualities to produce from the seed the pineapple, the orange, and other tropical fruits, these plants may flourish for a time under our atmosphere, by transplantation, if brought here during the warmer months of the year.* At what latitude precisely a person in possession of all the peculiarities of a northern constitution would begin to feel the deleterious influence of a highly elevated temperature to such a degree as to have yellow fever produced in him, cannot be well determined. Whether this line of demarkation is always within, or sometimes just without the tropics, I do not pretend to decide. If it were possible, for example, that the yellow fever was ever generated from its original elements in the latitude of Charleston, South Carolina, (32½ S.) then it would be under a very high degree of temperature, and in a constitution particularly predisposed, as in a Dane or North Briton, who, coming from those very high northern latitudes, are always most obnoxious to this disease. With respect to the natives of latitudes that approach the equator, it is to be remarked, that the predisposition from constitution declines, while that from atmospheric causes increases. When separately considered, the *epidemic susceptibility* seems to be in an inverse ratio to the *sporadic immunity.*

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* MS. History of Yellow Fever, by David Hosack, M. D.

TOPOGRAPHY OF MATANZAS.

Matanzas lies at the bottom of a spacious bay, which expands like a wide-mouthed funnel to the sea, where it is from three to five miles in breadth. The town is placed nearly upon a level with the water's edge, in the centre of a broad shallow basin, flanked on the west by the famous sugar-loaf mountain called the *Pan* of Matanzas, and far in the south bounded by a chain of mountains of less considerable altitude. Every part of the country, as all over this fertile island, seems covered with a rich growth of vegetation, the high lands clothed in forest trees, and the acclivities adorned with cleared and cultivated fields and plantations. The houses in the town are chiefly of stone, and very much of the same appearance and construction as at Havana. The streets, however, are wider than at the latter place, and the air generally hotter during the day, though in the same latitude. From the coral rock being whiter, the glare, and amount of reflected heat from the streets and houses, are proportionably greater. This makes Matanzas hotter than Havana in the day, but perhaps not as hot at night, because the bay, and its mouth, being wider, and the country around more open, there is more ventilation. The thermometer may be said to have a greater range, chiefly from the greater elevation to which it reaches. The two little stagnant rivers of San Juan and Yumuri, between the mouths of which Matanzas is situated, and which are not more than half a mile apart, are, with the intense heat of this place, admirably adapted for the production of remittents and intermittents, did not the aridity and rocky nature of the soil, and the pulverized particles of lime floating in the atmosphere, absorb the deleterious miasmata which must exhale from the sources of vegetable putrefaction which are found in such abundance in the streams mentioned, and which I saw verified in taking a ride over the bridge of the San Juan, near which, and in the very heart of the town, the mangrove bushes and trees grow out from the bed of the river in thick clustering masses, which, soaking and macerating as they do, in the water in which they stand, must be as constantly undergoing decomposition as they are reproduction. Yet Matanzas is considered, not only as respects yellow fever, but also other diseases, to enjoy better health in general than Havana; owing, doubtless, not only to its airy ventilated position, and its spacious bay, with plenty of sea room, but also to its comparatively small trade, when contrasted with Havana, from which it is distant about seventy miles E.

HAVANA—CASES OF VOMITO, &c.

The following are given as samples of the vomito, and of *bilious fever*, as seen by me at Havana, during my visit there, June, July, and August, 1830.

1. *Yellow fever. June* 4, 1830.—This case was that of a man by the name of William Hupping, aged about thirty-five years, native of Boston, in the United States, and seaman on board the brig Forrester, which arrived from Hamburg May 15th. Found the patient, as usual in this disease, lying on his back, and apparently quite in possession of his senses, though it was evident, on conversing with him, he was under that peculiar hallucination which distinguishes this complaint, and which inspires the sufferer with the most perfect assurance of speedy recovery, depriving him of the consciousness of any uneasiness or distress whatever. The dried blood had scabbed about his mouth outside the lips, and there was also a good deal of it in the opening of the nostrils, which were also dry. The tongue was soft, of a perfectly natural color, rather fuller in size than natural, and covered with a fine moisture, in no way discolored or furred. Most usually, at this stage, (for it was the last, as the reader must have anticipated,) the tongue is of a *fiery red* color, and covered with blood. The eye was of natural size and appearance, except that *composed stare*, or *unconscious gaze of satisfaction*, which it possesses at this stage, and which is but an index of the state of the mind. On the outer corners or angles, a bright or greenish yellowness had deeply tinged the adnata, but the red vessels had disappeared. A yellowness was visible also on the neck, and about the mouth. The general tinge of the complexion of the face was of a mahogany and livid hue. The skin was perfectly natural in temperature, and the heat equally diffused; also a softness and moisture upon it, and the extremities not particularly cool. The pulse was only *fifty-six;* slow, soft, full, regular, and, indeed, perfectly natural in every respect, except, perhaps, in being so slow. This symptom, so remarkable in the vomito, was in this case more strikingly and literally faithful to the peculiar character of the disease, than in any instance in which I have seen it. When I asked him how

he felt, and whether he had pain any where, he answered that he felt perfectly comfortable, and without any pain; nor did he wince at all, on placing the hand upon the epigastrium, though the attendant informed us he had violent paroxysms of vomiting every little while, making such noise, and struggling while *retching*, as to be heard at a considerable distance.* Of all this, then, it appears he was totally unconscious. How perfectly does this illustrate the peculiar condition of mind which characterizes this disease, and which I have so particularly dwelt upon in my work on the yellow fever of New-York 1822.

I observed to him, his mind appeared very composed and tranquil. He said it was, and observed that it was well it was so when one was in the state he was. The matter thrown from the stomach was the coffee-ground black vomit, and mixed up, as it was, with the urine, seemed to be reduced to a finer powder than it usually is. Some of it, however, was, as usual, mixed with a mucous or slimy matter, and some streaks of darkish blood. The blood about the lips and nose was reddish, and, as is generally the case, of a fresher appearance than the dark brownish powder which comes from the stomach. I am more and more convinced the *black vomit* is blood dissolved into nearly its original proximate elements, by a sort of fermentation, or assimilating chemical process, which necessarily takes place in the vessels of a person of northern constitution arriving in the hot season in the tropics. A change or revolution must be brought about in the rich, oily, inflammatory blood of the north, before it can be converted into the cool, juicy, diluted and thin liquid which flows in the veins of the native of these hot regions, and which is the only fluid compatible with the existence of life, and the continuance of the circulation under such circumstances. It is this change, or acclimation, or seasoning, which constitutes *sporadic* cases of black vomit like that I have been describing, a disease quite different, it must be recollected, from the ordinary bilious remittent of the climate, and to which the stranger, especially, if he be robust, as in the instance before us, is much less liable than to the vomito, unless it be in the cool season. This patient was of a vigorous frame and make, and a fit subject for the disease. He must have been ill about *six or seven days* when I saw him, and he died, I believe, two days after.

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* This retching, or straining, in vomiting, is unusual in this disease, as the matter generally comes up as if spurted out of the cardiac orifice without effort.

2. *Yellow fever. June* 19, 1830.—At the hospital of the Convent of St. Juan de Dios.

There was a monk cupping the patient on the epigastrium, but there being no physician present, I could learn to-day very little of the case, but what my own eyes pointed out.—He was fortunately placed in a light where I could examine him; I saw at once it was a case of the vomito, and what particularly struck me, was the pink color of his eyes, (the adnata,) which, without any other interpreter, pointed out to me the number of days he had been sick, which probably was not over *four* or *five*, though the cupper said *eight*. Certain it is, there was yet no yellowness of the adnata, and which must follow the suffusion of red blood on that part, which appears among the first symptoms of the disease. The pulse, also, seemed to show that the stage of collapse and yellowness was to arrive, for it was *eighty* to *eighty-eight*, and the skin was of a temperature higher than natural. Besides which, there was a good deal of force as well as fulness, in the arterial action. The *tongue* was, if any thing, *smaller* in this case than natural, and as in typhus, partially glazed and dry, and upon the point of, or actually exhaling blood. There was some blood had come from the mouth, and scabbed around the lips, but not much. There was not yet any hemorrhage from the nose, nor *black vomit*. The patient was of a robust make, from Old Spain, about 25 years of age, and his position, as is usual in this disease, was upon the *back*. He appeared to possess the *composure* and *unconsciousness of pain*, so characteristic of this disease, when the stage of collapse has just commenced, or is about commencing; apparently, not the least *fretfulness* or *uneasiness* disturbed him.

I saw this case again on Monday the 21st at noon; all the symptoms appeared to be declining, and taking a favorable turn. The pulse was as natural as it was possible to be, 72, measured regular and distinct in each pulsation, and soft to the feel. The skin also, of natural temperature; the tongue soft and clean, and the *pink vessels* of the adnata disappearing without any yellowness being yet discernible in their place.

Indisposition prevented my pursuing this case to its termination, though I have scarcely a doubt but it ended favorably.

3. *June* 25, 1830, *Friday.—Case of Bilious Inflammatory Fever at Havana.*

This, as well as the Bilious Remittent of the West Indies and of the United States, are, by many physicians, from want of accurate knowledge, and carelessness of discrimination, constantly confounded with the vomito. This patient was 25 years of age, an Englishman, sailor, and stout built; had come last from

Buenos Ayres, and been in hot climates before. Had last week some pain in the bowels and purging, but remained otherwise well until Monday last, when he was attacked with violent fever and *copious vomiting of bile, the disease thus beginning, as we see, in all its severity, with the very commencement of the fever. The vomiting declined with the fever*, and there was no black matter nor blood thrown from the stomach, none discharged from the nose, and none from the mouth or elsewhere—while the pain was located chiefly in the *forehead and the centre of the brain, without any pain, redness or yellowness of the eye-balls, and without any pain on the superciliary ridge, or in the back or limbs.* The fever declined last evening, and to-day his pulse is 52. The phrases italicised, point out the clear lines of demarcation between this and the vomito. There was much debility in the convalescence of this case, and the tongue, at one time, became parched or glazed with brownish scales, as if it would terminate in typhus; but this was in the *third week*, and after all fever had subsided, being probably purely the result of debility. The symptoms passed off as he gained strength, and his recovery soon followed. This symptom mentioned, occurring so late in convalescence, and so entirely typhoid in character, is another argument against the case being yellow fever.

4. *Aug.* 5, 1830. *Yellow Fever.*—Though this patient had been ill six days, and was dying, there was no black vomit, nor hemorrhage, from the nose, mouth, or elsewhere, unless the matter should have been found, on dissection, in the stomach or intestines. He was from the north of Europe, of robust make, and about forty years of age. The eyes were shrunk, as usual at this stage, and the adnata of deep yellow tinge, all the red blood vessels, and watery swollen appearance of the ball in the first stage, having, of course, disappeared. The skin was cold to a degree which almost surprised me, (the temperature of the atmosphere being about 84°,) and was covered with a profuse moisture. The pulse almost imperceptible, and not over 80. Some indications of subsultus in the spasmodic twitching about the mouth, and in the squinting movement of the eyes. The tongue dry, of usual size, and reddish. When I expressed my surprise to one of the assistants, (it was at a private hospital,) that there was no hemorrhage, or black vomit, he said the practice of Dr. —— was to bleed profusely at the commencement of the disease, sometimes, I understand, to 60 ounces. If there are any cures effected, then, under this pernicious practice, it must be by the cool country air in which the hospital is situated; though I am myself friendly to bleeding in moderation very early in full habits, and where there is great arterial

excitement, by leeches to the head, especially as that is the first and principal organ affected, and perhaps more the seat of the disease, in truth, than the stomach, the affection of which, it may be, is rather secondary, and sympathetically from the head, than primary.

5. *Aug*. 6, 1830. *Yellow Fever.*—This was a stout built subject, of about 35 to 38 years of age, by birth a German, and by profession a sailor. This was the tenth day of the disease. Had had a very considerable deal of fever for the first few days, when the hemorrhage from the nose and mouth, and black vomit, came on, together with, as usual, the stage of collapse. At this time they had all declined, but the blood was still adhering to the lips, and opening of the nostrils. The tongue was moist, the skin of natural temperature, and the pulse seventy-six, and extremely regular; but, above all, the state of the mind was perfectly sane and collected, which, I mentioned to Dr. C. was, in my opinion, the most favorable symptom at this stage, and, taken in connexion with the others, ought to assure us that convalescence had arrived. The treatment had been mild purgatives of castor oil, injections, ablutions of lime juice and water, and mild drinks. Saw this patient again on Monday, Aug. 9th, and he was walking about, nearly well. He entirely recovered very soon after this. It was a *legitimate* case of black vomit, in a *legitimate* subject, and occurring in an individual of a class and profession of persons in whom it is so frequently met with in the West Indies, this being the class who constitute by far the greatest bulk of strangers who come from colder latitudes. Their intemperate habits, and the neglect, too, they meet with, being often sick several days before they have medical attendance, and being never furnished with good nursing, (more important in this disease than medicine,) makes the proportion of mortality among them so much the greater.

6. *Aug.* 9, 1830. *Yellow Fever.*—A robust young sailor, aged 21 years, a *Prussian* by birth, on board the brig Agnes, was attacked last evening with fever, pain in the forehead and head, in the loins, and calves of the legs, which symptoms were all present at our visit to-day. The pulse was 120, full and large, but more or less compressible, and the skin of a *biting heat*, and inclined to moisture. Had rejected some of his drinks this morning, but no pain of epigastrium. The EYE, which with the direction and seat of the pain, were at this time the most prominent indications of the nature of the complaint, was, in the appearance of the adnata, highly characteristic of yellow fever, by the beautiful *pink color* of its red vessels. The tongue was moist, covered with a thin white fur, slightly bilious towards the root

of it. The patient calm. On the fourth day, I found the stage of collapse had completely arrived. *Fever, and pain of head,* they said, entirely left him this morning, the pulse being now only 76, slow, full, and regular, and the skin of natural temperature; but with these fair symptoms, (as the mate, sailors, and steward thought them,) and in lieu of the cephalgic distress, came a constant irritability at the precordia, (by pressure or otherwise,) and black vomit, as I learn from the steward, on taking his drinks this morning. The white fur remained on the tongue, and its surface, to the touch, was becoming dry. The lips also parched and scaly, (as when chapped by frost, or the sun,) but no hemorrhage yet from the nose or mouth. The EYES were very peculiarly significant of the nature of the disease. They were much more swollen, and now actually *inflamed,* the right one, in the conjunctiva of the lower lid especially, of a very deep red, and the vessels highly surcharged with red blood, as well as those on the adnata;* but in the left, on the adnata, the vessels had mostly disappeared, except towards the *cornea* and *angles,* and in their place the deep bright *yellowness* was very strikingly perceptible. Great restlessness, distress, and inclination to coma, with disinclination to talk. Anxious expression of countenance. They say on board he is much alarmed. Had had four natural evacuations. Directed as little as possible to be given by the mouth, a table-spoonful of barley, or rice water, every half hour; the mustard cataplasm to the precordia to be renewed. Ablutions of aguardiente, (that is, the country rum,) with lime juice, constantly, and to be kept on deck while the air was dry and clear, the thermometer being this day 86°. He was in the confined space between decks, and I had him immediately brought up. The next morning the brig sailed for Matanzas, carrying the patient with her. What the result is, therefore, is impossible to say, but the presumption is it was fatal. [Captain Harding, master of the Agnes, informed me on my arrival at Matanzas, Aug. 22, that this patient died the next day but one after he left Havana.]

7. *Thursday, Aug. 12th,* 1830.—*Yellow Fever and Bilious Remittent in the same room, (patients of Dr. Clarke.)*

Yellow Fever.—A little boy, native of London, 14 years of age, on board the brig Maria Cecilia, Capt. ——, lying at the wharf in front of the custom house, was attacked yesterday with considerable fever, pain in head, back, &c. Had taken castor-oil yesterday. I found the pulse 116, though hard ; a light white fur on the tongue, *pink colored adnata*, dry hot skin, here and there, however, moist—complained much of pain in the back in the region of the loins, and nowhere else, except a general uneasiness and fulness in the head—lay on his back. Directed the mustard embrocations, for there was some slight irritation at the precordia already, though no vomiting—also, tepid water ablutions constantly—pediluvium, barley water, &c.; but first of all, ℥x. of blood from temples by leeches,* and injections before bed time.—*On the Monday* morning following, *(Aug. 16th,)* being the *sixth* day of the disease, Dr. Clarke invited me to pay this patient another visit with him, as the case was growing worse. He had had him removed to Nicoll's house at the Punta, where he received good nursing from Mrs. N., who had placed him in the dwelling occupied by the family, situated immediately on the sea it may be said, as the house is built within a few yards of the surf, on the rough coral rock, which forms the shore here, and which I have before described. Here the temperature is always agreeable, if there is any breeze at all; and there almost always is, so that the patient was placed under the most favorable circumstances, as to a pure air and comfortable nursing. I found a very material alteration had taken place; the stage of *collapse* having come on yesterday, and in lieu of the excitement and fever which previously existed, there was now a comparatively cool skin or natural soft pulse of 76 only; bleeding also, from the *lower* lip, and dry scales formed upon it, which it must be observed, are nothing more than *coagula* upon the mouths of the bleeding orifices, without any fetid odor emitted therefrom; whereas, in typhus, to which this appearance has, at first sight, some analogy, the black scales which collect there, are the result rather of a secretion or deposition of sanguineous putrescent matter, very offensive to the smell, like all the excretions, secretions, and discharges of the body in that disease ; though it does sometimes happen, also, in typhus, that *blood* is discharged from the mouth and nose, and in books it goes generally by the name of a *hemorrhage*, though I think improperly. There was also present great anxiety and distress in the countenance, and extreme restlessness ; the patient complaining much of an uneasy burning sensation about the precordia, which, he said, prevented him from coughing, and which, doubtless, was the gastric irritation preceding black vomit, which latter substance he had not thrown up, but had manifested several times an inclination to eject from the stomach his drinks. The countenance, *though not the surface of the body generally*, had that peculiar *mahogany suffusion*, characteristic of this disease, particularly under the eyes, where it was so dark as almost to appear like extravasation. The adnata was now perfectly free of red vessels, and in their place was substituted, as usual, a *greenish yellow tint*, which, on turning down the lids, was found to be on the outer part or circumference of the ball, of a much brighter and more distinct appearance, and of a *golden or orange yellow*. The bowels were free, and the stools somewhat dark, but very little fetid—the urine was not disturbed—the tongue was strongly marked, and in a manner somewhat different from what I have generally seen it at New-York. In this case, and in several others I have seen at Havana, the tongue was divided, it may be said, into three bands, running lengthways, of nearly equal breadth from the root to the apex; the middle one of a *darkish brown color, and dry and rough to the touch;* the other two covered with a *thin, moist, and white fur*, as in ordinary fevers. But in the north, though the middle part may exist, there is, very frequently, in the first days of the disease, a distinct clean margin, without fur on the sides and apex. There was no pain in the head, or anywhere, but in the precordia. He complained much of his mustard cataplasms on the stomach and legs, which was almost the only good symptom upon which any hopes of his recovery could be built. There was no hemorrhage from the *nose*. In the afternoon I saw him again, with Dr. C.; he had a natural passage, and was asleep when we came, and much more composed, *too much so* almost, as is usual often when black vomit and dissolution are approaching; for he now complained of nothing but his sinapisms, saying that he felt *perfectly well*, and wanted to walk out. After we had gone down stairs, in fact, he got up, and attempted to execute his purpose. Mrs. Nicoll said he had tried it several times before to-day, and also last night—this I considered a *very bad* symptom, and it is usually thought so; but Dr. Clarke informs me that many of the cases here, which have this propensity, (one of which he says crept out of the window, went to the barber's, and got shaved,) terminate favorably.* It may be remarked that, in this present case, there was not much incoherence of mind, except that which was denoted by this propensity, and by his insensibility of pain. His drink and food to-day, have been a light soup with rice—the ablutions of lime juice and aguadiente (the country rum) are continued—temperature of air to-day, 82 and 83, with showers in the forenoon, and rain all the afternoon.

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* Sir G. Blane speaks of cases in the West Indies where the eye has actually suppurated and been destroyed.—*Select Dissertations.*

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* The bleeding was not performed.

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* It may be here added, that this curious species of insanity, with which the mind is affected at this stage of the disease, often bears a very striking resemblance in the general aspect of the patient's movements and manner, to *mania a potu*. The intemperate habits of sea-faring men, and most other foreigners, in hot climates, may therefore, assist in the developement of this feature in yellow fever.

The next day, Tuesday, Aug. 17, coutrary to all expectation, an evident improvement had taken place. The patient had several hours natural sleep; the countenance had become quite composed, and of more natural expression. He now lay on his side, and seemed inclined to repose; complained of no pain but at the red places where the sinapisms had been—took his drinks well, without any inclination to eject them—his stools also, were now of a stronger and more natural smell, and darker color, showing *better assimilation*—the urine copious and darker.

Thursday, Aug. 19.—Patient continues to improve rapidly; sleeps much, and eats well—a dose of castor-oil brought away very *fetid* and *dark* dejections—nothing, however, of the *inky* matter from the bowels in fatal cases. The blood, from the lips was now also, of a redder and better color, and that which collected on the lips, (the lower lip especially,) had dried, and formed into blacker and thinner scales, showing that it was becoming more natural. The golden yellow tinge of the adnata was now still more striking, and the same color had extended over every part of the body down to the toes. As a striking illustration of the marked distinction between black vomit or yellow fever, and the *ordinary bilious remittent* of this and other climates, there was lying on another cot in the same room, a little mulatto boy of about 11 years of age, house servant of Mrs. Nicoll—he was taken on Monday last, I think, and had copious bilious vomiting, bilious fur on the tongue, much febrile excitement, pain in the head and forehead, but not particularly in the eye-balls, and no redness of the eyes, but *yellowness* of the adnata from the very invasion of the disease; showing that so far from bilious fever, or bilious remitting fever and black vomit being of the same type, or on the same parallel, they do, in fact, on the contrary, in every symptom where the faintest resemblance can be traced, *run in directions directly opposite;* and that the portrait of the one, both as to the march of the symptoms, duration, &c. is exactly the *reverse* of the other. The *vomiting, however, declined,* as the disease advanced, and to-day he is without it, though the *exacerbations* and *remissions* continue. Whereas, in the case on the other side the apartment, the gastric irritation had increased with the advance of the disease, while, on the other hand, the fever had totally subsided, leaving in substitution thereof, a cold skin and pulse of 74, being the stage of collapse of yellow fever, while again, in the bilious remittent, the fever becomes more and more defined and characterized into remissions and exacerbations, as the disease progresses, i. e., at the latter stage, or very part and period of yellow fever, where there is no fever.

8. *Yellow Fever. Monday, August 15th.*—Mr. Sagra called at six A. M., to take me to the hospital of *San Ambrosio*, which is a very considerable establishment, and of spacious dimensions; but, as usual in all the hospitals here, the patients are crowded together to a degree scarcely possible to believe, but by those who have visited them. The ceilings, it is true, are high, the windows large, and always open; but the breadth of the wards is, on the other hand, extremely narrow, and the passage in the middle between the two rows of beds scarcely wide enough to admit a person to walk; the beds themselves, of the patients, being almost in contact.

One case, which was well marked, was a native of Old Spain, aged about 35. It was the fourth or fifth day. The red vessels of the adnata of one of the eyes, were not entirely gone, while the other was perfectly yellow, as in the Prussian above mentioned. The tongue showed the remains of a dry dark brown fur in the centre, but it was *cleaning off in a natural manner* on the margin, strongly indicative of convalescence. There was much prostration—no bleeding of nose or mouth.

9. *Yellow Fever.*—Another case, younger, also, from Spain, and, like the other, a soldier, I believe, as most of the patients of this hospital are, was quite advanced in convalescence the tenth day or more. The eyes were very yellow, but what distinguished the case was its termination, as sometimes happens, in *parotitis*, or inflammation of the parotid gland, on the left side I think it was; and this symptom, it may be here remarked, is more curious, when taken in connexion with the inflammation, suppuration, or mortification of the testicles, which also sometimes happen in yellow fever, and which, though, like parotitis, rare symptoms, recal to mind the analogy of *mumps*, and are, at the same time, conclusive evidences that the glandular and lymphatic systems are extensively implicated in yellow fever.* The principal physician of the hospital had had much experience in yellow fever, and has charge of the naval patients. He showed me a

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* Dr. Clarke mentioned to me, also, as illustrative of this curious sympathy, that in fatal cases the patient often seizes hold of his testicles with a violent grasp just before death.

row of about a dozen, nearly all of about the age of 35 years, and lying in one range, who he said had been cases of yellow fever, but with very few exceptions they were all so convalescent (whatever their disease might have been) that it was impossible now to discover scarcely any traces of the malady under which they had labored. I learned from this physician, that his practice was profuse general bleeding in the beginning by the arm, and afterwards topical by the foot, and by scarifications, cupping, and leeches, to the epigastrium.

LETTER FROM DR. HOSACK.

Since the foregoing article was sent to the press, Dr. Hosack, in reply to some inquiries made by me to him, has had the kindness to furnish me with the following valuable communication, which I have the greater pleasure in annexing to this paper, inasmuch as the lucid and comprehensive manner in which the outlines of the subject are here delineated, conclusively evinces that this distinguished physician has not in any manner changed the orthodox opinions that he very early, and has ever maintained, respecting the origin and nature of the vomito, notwithstanding the collisions to which the controversy respecting contagion has given rise in Europe, and in spite of the ferocious persecution with which he and others have been pursued, for daring, alone almost, to sustain these doctrines against the combined attack of the whole medical profession in this country.

New-York, January 15, 1831.

DEAR SIR—You ask me for a brief summary of my views of the nature, origin, and treatment, of yellow fever.

In the definition I have ever given of this disease, (see Nosology, second edition,) you will perceive that I consider yellow fever to be the disease of the northern man suddenly removed to the tropics; in other words, the effect of *high temperature* upon the unacclimated constitution, and this frequently aggravated by other exciting causes, as, *violent exercise*, *ardent spirits*, *free living*, *exposure to night air*, &c. &c. This disease is not limited to *Siam*, in the East Indies, as its birth-place, as has been believed by some writers, nor to the *coast of Africa*, as urged by others, but extends to the tropics in general. I have, therefore, in reference to this belief, and the striking similarity which this disease, in many of its characteristic symptoms, bears to the plague, called it "*pestis tropicus*."

When the yellow fever attacks the individual, it frequently destroys, without being communicated to others surrounding him, that is, in a pure atmosphere, where attention is paid to ventilation, personal cleanliness, and the removal of all excrementitious and foul materials from the apartment of the sick; but where an individual is attacked with fever in a *crowded and filthy dwelling*, as *on board ship*, in a *garrison*, in *small crowded apartments*, the disease, under such circumstances, assumes such a degree of malignity, that the excretions from his person, mingling with the virulent materials composing the offensive condition of atmosphere around him, readily communicate the same disease to those who respire such atmosphere, or are exposed by contact with, or near approach to, the sick, the wearing apparel, or other material impregnated with the excretions of the diseased body.

My communications to the late Dr. Chisholm, and those contained in my medical essays, in the American Medical and Philosophical Register, illustrate the views I entertain of the relatively contagious character of yellow fever. I say *relatively* contagious, because, in many instances, as in the pure atmosphere of the country, in large and well ventilated apartments, and where attention is given to personal cleanliness, frequent ablution of the body, and to the use of the various materials recently and successfully employed for disinfecting the atmosphere, such disease oftentimes disappears without being communicated to others, not even to those administering to the sick. This doctrine, you will recollect, is no less applicable to common *typhus fever*, to *dysentery*, to *remitting*, *ship*, and *lake fevers*, than it is to *yellow fever*. But I have already communicated in detail, the articles of my faith on this interesting subject. (See Literary and Philosophical Transactions of New-York, vol. i.)

But, again, I wish you to remember the facts I have also adduced to show, that in some cases, even in the pure air of the country, such is the specific character of yellow fever, and such is its occasional virulence, that where the greatest attention has been given to the means of disarming it of its contagious nature, it has still been communicated in succession to the different members of the same family into which the first case had been introduced, and, indeed, to others who may have visited the infected dwelling. I have already published* numerous facts in illustration of this truth, and many others are in my possession of a similar nature, which irresistibly establish the peculiar features of the disease, and its occasional communication by contagion. All the *negatives* that have been brought forward by the M'Leans, the Bancrofts, &c., or that can be adduced, can never destroy or impair the *affirmative truths* that have been established by the facts referred to, and others which, within a few years, have been promulgated by the College of Physicians of Philadelphia; by Sir Gilbert Blane,* Sir James Fellowes, Dr. Pym, Sir Joseph Gilpin, Bally, Pariset, Gerardin, Audouard, and a host of others. We need not, therefore, resort to the peculiar views taken on this subject by the late Dr. Chisholm, Dr. William Stevens, of St. Croix, and others, who consider the Bulam fever of the Hankey, in 1793, as a nova pestis, or a specific form of yellow fever, as distinct from the ordinary type of the disease as it annually appears in the West Indies. The crowded population of the Hankey, on the coast of Africa, and of other ships, by which it has occasionally been engendered in the tropics, and has diffused itself in the West Indian islands in different years, and has been thence communicated by commerce into the different cities of Europe, and of North and South America, affords a ready, and, to my mind, a satisfactory solution of the peculiarities of virulence referred to, without resorting to the generation of a new, peculiar, and distinct virus, as the gentlemen referred to contend for. Such, too, is the general impression made upon the public mind in this country, that notwithstanding the unbelief expressed by many physicians of the non-contagious character of yellow fever, should the disease hereafter be again introduced among us, nothing would induce our citizens to remain at their homes; indeed, flight would be the wise resort of all who possess the means of abandoning the seat of the disease. Indeed, I have long known, that even among the *physicians*, the most sturdy of the non-contagionists who have written and published most upon this subject, have all been among the first to fly from the city during such visitations of this disease.

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* See Medical Essays, vol. i. Appendix to Thomas' Practice. American Medical and Philosophical Register. "Discourse on Contagion."

But I rejoice to tell you, that the belief I have expressed above, is now entertained, and has been frankly and recently acknowledged, by some of the ablest champions that have contended for the contrary doctrine. Some facts that have recently occurred, but which have not yet been communicated to the public, have been the means of effecting this change of opinion among some of the most eminent members of our profession, and who hitherto have held a distinguished rank among those who have been opposed to the specific character and contagiousness of yellow fever. I trust they will themselves *publicly* announce, with the same candor that has led them *privately* to express this new conviction, and the facts which have effected the change in their views on this important subject.

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* See his Appendix to the Diseases of Seamen, "Med. Logic," and his recent account of the introduction of yellow fever into the island of Ascension, by the sloop of war Baron, from the coast of Africa, "the circumstances of which, says the reviewer, leave no doubt of the infectious nature of yellow fever, and of the expediency of taking precautions against its importation, and ought to serve as a warning to prevent the recurrence of calamities, which, in this, and other instances, are imputable to a neglect of due precaution."

The two forms in which yellow fever appears, as occurring in the insulated individual, or in a crowded population,—in other words, as *sporadic* or *endemic*,—leads us to divide the disease into the two species of—1st, *Simple* or inflammatory yellow fever; and, 2dly, The *malignant* or contagious form of the same disease.

The former, as it ordinarily occurs in the stranger arriving from a northern latitude in the tropics, assuming an inflammatory character; the second, as occurring in the endemic form, as described by Dr. Chisholm and others, in which it exhibits a more aggravated or typhoid type, and becomes, by the excretions of the system, readily communicated from individual to individual. This view of the two forms which the same disease assumes, depending upon the circumstances under which it occurs, leads to a corresponding difference in their mode of treatment, and readily accounts for the various results that have followed the modes of treatment pursued by different writers: e. g. it satisfactorily accounts for the benefits that have been derived from depletion by the lancet, and other means of evacuation that have been directed in one form of the disease;[*] at the same time it displays the deadly effects of the same practice when pursued in the endemic or typhoid character of yellow fever, as propagated by contagion. We also, at the same time, readily explain the beneficial operation of the mild aperient and alterative means that have been so successfully employed in the more malignant type which the disease has assumed, as it has been introduced at different periods into the West India islands, into the south of Europe, and into the cities of the United States; in Charleston in 1732, 1739, 1745, 1748, as described by Dr. Lining, and more recently in New-York,

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[*] See Dr. Moseley on the diseases of the tropics.

Philadelphia, &c. in 1762, 1791, 1793, 1794, 1795, 1796, 1797, 1798, 1803, 1805, 1819, 1822, &c. &c.

This doctrine, too, I believe, will be found more effectually to reconcile the various and opposite opinions that have divided the profession with regard to the peculiar character of the yellow fever, its occasional communication by contagion, and the several modes of treatment that have been pursued, than any other that has been promulgated.

I offer it, at all events, in compliance with your request, as containing a brief summary of the most correct views which I have been enabled to take of this subject, and of the numerous and apparently discordant facts which it presents. With regard to the mode of treatment which I have found most useful in the various endemic visitations of yellow fever with which this city has been afflicted since the year 1794, when I first became personally conversant with this disease, I cannot furnish a more succinct view of my practice, than that contained in a letter, prepared at the request of the Board of Health, in 1819, when we were members of that body, and which will be found upon their minutes.

To that letter I can make no additions, excepting to remark, that the experience of the year 1822 has served to give me still greater confidence in the sudorific treatment which it recommends, and which I have generally pursued during every visitation of this disease since the year 1794. With due respect for the opinions and views of other practitioners, I am no less convinced of the injurious consequences to be apprehended from the indiscriminate use of the *lancet*, *mercury*, and the *affusion of cold water*, in this endemic form of fever. I am apprized of the remark made by some physicians, that the practice I have recommended is not sufficiently energetic to counteract the violence of this ferocious disease. To this I reply, that long and repeated observation has convinced me, that in the *endemic* form of yellow fever, as has been found to be the case in the plague, the milder the means that are employed in its treatment, the better enabled is the system to maintain those excretions which are essential in controlling the action of the poison, the source of the disorder, at the same time that the prostration which succeeds, and the period of convalescence, are comparatively less.

I cannot more strongly evince my own confidence in the measures that have been recommended, than by observing, that in the memorable season of 1798, when I was associated in practice with the late Dr. Bard, we both experienced a severe attack of the disease, and exclusively placed our dependence upon the plan of treatment that has been advised in the communication referred to.

With the hope that this sketch may meet your wishes, I beg you, dear sir, to accept the assurance of my great regard.

DAVID HOSACK.

PETER S. TOWNSEND, M. D.

[Letter to the Board of Health, above referred to.]

New-York, September 20, 1819.

DEAR SIR—As many of our citizens are now removing from the infected parts of the town to the country, it is probable, judging from the occurrences of former years, that some may take with them the seeds of the prevailing disease. In such cases, especially where the sick may not have it in their power to command the attention of a physician, it is important that they should have some knowledge of the treatment proper to be pursued.

Agreeably to your request, I have put together a few hints, pointing out the means that experience has shown to be attended with the greatest success.

When first indisposed, by the symptoms announcing an attack of this disorder, viz. a sense of coldness, followed by severe pains of the head, back, and limbs, great redness and burning of the eyes, with a degree of weight and oppression about the region of the stomach, the patient should immediately take an ounce of Glauber, Rochelle, or Epsom salts, drinking frequently a cup of thin gruel, toast-water, or herb-tea, during their operation.

The patient being in bed, and covered with a blanket, perspiration is generally promoted at the same time that the cathartic effects of the salts are produced.

Should the salts be rejected by vomiting, let the stomach be well emptied by a cup of warm water, or chamomile tea. When the stomach is composed, the salts may be again resorted to, or some other cathartic medicine may be administered, such as castor oil, rhubarb and magnesia, an infusion of senna and manna, or the common domestic injection, may be had recourse to.

When, by some of these means, the bowels have been relieved, the patient should continue the use of warm drinks, for the purpose of producing perspiration, upon which, in a great degree, his safety depends.

Should the skin remain hot and dry, bathing the feet and legs in warm water, and drinking freely of warm lemonade, vinegar whey, catnep, boneset, snakeroot, balm or sage tea, will rarely fail to effect a plentiful discharge by the surface. The spirits of mindererus, given in doses of a table-spoonful every two hours, and occasionally sponging the body with warm vinegar and water, will also be very useful in effecting this object.

The perspiration, being thus obtained, should be continued, if possible, without intermission, until the patient is perfectly free from fever, which will generally be the case in about forty-eight hours.

If the head be oppressed by stupor, a blister between the shoulders, or two of them applied behind the ears, will be useful. In an athletic habit of body, the loss of a few ounces of blood, by leeches, by cupping, or by the arm, has, in some instances, afforded great relief; but this remedy is very rarely necessary or proper, for, in most cases, blood-letting has been attended with fatal consequences in the endemic form of yellow fever.

If the stomach is disturbed, and the drinks are rejected by vomiting, attended with much anxiety and sighing, a blister should be instantly applied over the pit of the stomach. If this fails to give relief, and the vomiting should prove obstinate, attended with dark colored discharges, a mixture of equal parts of lime water and milk, given in small quantities, (say half a wine-glass full of each every half hour,) will frequently arrest it. In other cases, the lime water alone, and, in some, milk alone, has been found useful, while, in some few cases, porter and lime water combined have been successful, when every thing else has proved ineffectual.

While these means are made use of, the extremities should be kept warm by fomentations of vinegar and water, or spirits and water, frequently renewed, and cataplasms, composed of meal, mustard, and vinegar, should be applied to the soles of the feet. In some instances, blisters applied to the ankles, or to the wrists, have arrested a vomiting that had resisted every other means.

The diet of the sick, in this disease, should be simple, and chiefly composed of vegetable nourishments, such as barley water, Indian, or oatmeal gruel, arrowroot, sago, and panada; and for a few days during convalescence, the patient should altogether avoid animal food, and when he returns to the use of it, he should first take it in the form of soups, and these prepared with a large proportion of rice, barley, and other vegetables.

Emetics and mercury, which are very generally prescribed in the bilious remittent, and typhus fevers, are, for the most part, prejudicial in this form of fever, and ought seldom to be employed, and then only under the direction of a physician.

Allow me to add this truth, however humiliating it may be to the pride of science, and I mention it in confirmation of the good effects of this comparatively mild treatment, that in the yellow fever of 1798, under the direction of Richardson Underhill, a member of the society of Friends, who, like another Howard, volunteered his services to the poor on that memorable occasion, a greater proportion of persons ill of that disease, were cured by means of mild aperients, simple diluents, and tepid ablutions, with vinegar and water, than by those more active prescriptions at that time employed by many of the graduated physicians of our country.

With the hope that these suggestions may be found useful,

I am, dear sir, very respectfully, yours,

DAVID HOSACK.

The Hon. Cadwallader D. Colden, President of the Board of Health.

NOTE FROM DR. W. STEVENS.

Since the above was printed, I have had more detailed conversations with Dr. Stevens on the subject of yellow fever, and am pleased to be able to add some further explanations of that gentleman's views with respect to the nature and treatment of yellow fever. They are these. With respect to the changes the blood undergoes in this fever, Dr. Stevens believes:

1. That the blood becomes more fluid from losing that which was the cause of its consistence, to wit, the *fibrin*, consumed, or, to speak more properly, exhausted, during the inflammatory stage, and partly from the retention of those fluids (the urine, perspiration, &c.) that ought to have been thrown out by the secreting organs. The more so as there is no more new material for the formation of blood added to the circulation.

2. The blood becomes black from losing that which was the cause of its red color, to wit, the saline matter which is invariably found in the blood of health. Dr. Stevens' experiments seem, in his opinion, to prove, that saline matter is the true cause of the red color of the blood.

3. The saline matter is the antiseptic principle of healthy blood, the consumption or loss of which, during the fever, in the same proportion, accelerates the dissolution of the vital fluid.

4. About the end of the second day of the fever, there generally commences an acid secretion in the stomach; the irritation produced by which is probably the true cause of the gastro-

enterite of Monsieur Broussais. And by the use of carbonate of soda, &c. this acid (which is found to be muriatic,) becomes neutralized by alkali, as is made manifest by the large quantities of carbonic acid extricated from the stomach immediately after the use of the carbonate. This is rendered the more probable from the circumstance that the stomach becomes less tender, while the precordial burning ceases almost immediately after the commencement of this treatment. Muriate of soda, the natural salt of the blood, is now formed in the stomach, and absorbed into the circulation, and thus remedies the diseased state of the circulating current. And this saline addition to the fluid enables the kidneys, and other secreting organs, to continue the performance of their functions, and points out what are the class of remedies best suited to the nature, and successful treatment of the yellow fever. And the best proof that this is the fact is, that when this treatment is judiciously used, the practitioner seldom or never witnesses a bad symptom. The progress of the disease being thus effectually arrested by timely and judicious treatment, the fever soon subsides, and all danger is past.

[The above was furnished me politely by Dr. Stevens, in a conversation with me. *New-York, January 17th*, 1831.

P. S. TOWNSEND.]

ART. IV.—*Observations on Delirium Tremens. By* PH. EDWARD MILLEDOLER, M. D., *of New-York.*

OWING to the facilities afforded of obtaining ardent spirits, at very reduced prices, it is to be expected that the diseases of our country should be considerably modified by the prevalent use of these articles.

This is more likely to obtain among the lower orders, who are not so much restrained from giving loose to indulgence, by the disgrace and ignominy attached to such conduct in more refined society. Hence it is observed, that the treatment of patients in hospital establishments is to be modified according to their previous irregular modes of life. It often happens that persons are admitted, who, in the midst of a debauch, have met with serious accidents; and in these cases the surgeon sails, as it were, between Scylla and Charybdis—the nature of the case, independently considered, requiring an antiphlogistic treatment, whilst the constitution of the patient may be such as would receive from such treatment, incautiously conducted, a shock from which it might not recover.

There are many chronic diseases, particularly ulcers, the subjects of which are received at hospitals, and who, anticipating an end to their indulgence, commit excesses just before applying for admission. In such, the disease of which we treat often occurs. There are other combinations of it with medical diseases, in all of which respect must be had to the circumstances of the cases, in order to their proper treatment. Having had frequent opportunities of witnessing it, in all its varieties, I will endeavor, as simply as possible, to detail the symptoms—to explain what I conceive to be the pathology of the disease, and to state the plan of treatment which experience has decided to be uniformly successful.

There is little reason to suppose that delirium tremens was particularly and publicly distinguished from those forms which were classed under the general head of mania until the commencement of the present century. Had it been recognised by the older writers in medicine as a peculiar disease, it may be concluded, from the symptoms being so marked and imposing, that it would have been fully and minutely described. Of this, however, I am convinced, that it must have been of comparatively rare occurrence formerly, or, with their usual penetration, authors would have traced it to its cause, and given to posterity the result of their observations. That it is a disease rather peculiar to modern times, may also be inferred from the fact, that the most fruitful source of it, viz. ardent spirits, were not used to excess until within a late period. It seldom originates in those persons who confine themselves to vinous or fermented liquors.

Since the time that the attention of the profession has been directed to it, as a disease "sui generis," it has been known by a variety of names, such as *brain fever*, *drunken delirium*, *delirium a potu*, *delirium vigilans*, and *delirium tremens*. A common name among sailors for it is the *horrors*.

I would object to the first, that it conveys an erroneous impression; fever, either local or general, being neither the disease, nor a necessary symptom of it. The second is vulgar and unprofessional. Delirium a potu is improper, inasmuch as it is inapplicable to all cases. The disease may arise from the free use of opium, and other narcotics, and not necessarily from stimulating or spirituous potations. Delirium vigilans, although a better name than either of the preceding, being significant of one of the most marked and important symptoms, yet is objectionable, as the disease is not *always* at an end when the patient is asleep. Perhaps delirium tremens is the most appropriate, being also significant of a very characteristic symptom, and one which is never known to be altogether absent in any case.

This disease may with propriety be divided into three stages, which, although not so distinct as in other diseases, yet are sufficiently so as in some measure to modify the treatment. They may be called, 1st. The incipient, or stage of collapse; 2d. The congestive; 3d. The convulsive, or apoplectic stage.

First. The incipient, or stage of collapse.

This condition supervenes immediately after the excitement of a debauch has passed off, or when persons who have been in the habit of daily and excessive stimulation, have been suddenly exhausted by accidental loss of blood, or by the irritation of pain from injuries, or even from change of habit, without any special occurrence calculated unduly to abstract the vital power.

This stage is of comparatively short duration, and the symptoms as yet not being violent, medical aid is not resorted to, and physicians have seldom an opportunity of witnessing the disease from its commencement. The symptoms of debility are now unmasked. The surface of the body is cool and moist; the perspiration clammy, and often profuse; the pulse is variable, always weak and compressible, generally small and irregularly frequent in its action, and occasionally slower than natural, though readily quickened by the slightest mental or bodily exertion.

The muscular system is in a state of uncontrolled action, from loss of nervous influence, giving rise to tremor at this early stage, showing itself mostly in the hands, but, as the disease progresses, or in severe cases, affecting all the extremities. The head shakes, the knees totter and tremble, and the body rises and falls upon the thighs, as if the patient was about to fly. At this period, the sensorium is also somewhat affected. The mind wanders, but is not altogether incapable of correct, or connected ideas. There exists, to a certain degree, aural deceptions, and pseudoblepsis, producing imaginaria. These visions, however, are not so distinct, and do not appear so much to fix the patient's attention, as in the farther progress of the disease. He is, during this stage, easily managed.

After this state of things has continued for a length of time by no means definite, the second stage gradually approaches, and is formed, when we observe the following symptoms. The skin is generally warm, though moist, often covered with a profuse perspiration. The pulse has become more full, and generally more slow. It is irregular, compressible, and weakly laboring. The pupils of the eye are sometimes unusually dilated or contracted. The muscular action is trembling, hurried, and precipitate. The delirium becomes more wild. He is impatient of control, or opposition. The aural deceptions, and pseudoblepsis, are more marked. He sees horrible objects, from which be attempts to escape, or, looking fixedly for a moment, appears to hold converse with imaginary beings, sometimes exciting his fear or wrath, at others occasioning mirth, and apparent amusement. He mistakes the coverings of his bed for his clothes, and makes attempts to put them on; gathers together pins, pieces of money, and other small objects, and distributes them to those around him, or to imaginary bystanders; supposes that insects and reptiles are crawling on him, or biting him, and attempts to brush them away. Resists imaginary attempts to drag him out of bed by hooks, or otherwise. These, and an endless variety of phantasies, agitate him continually, and you can hardly, for a moment, engage, or retain his attention.

This restlessness gradually abates, in which case he falls asleep, or else continues to increase, with an aggravation of all the symptoms, when he suddenly falls down in a fit; and this is what we would consider the third stage.

At first he is convulsed, but afterwards lies more quiet, with the pupils of the eye contracted, or dilated, and not affected by a strong light. In this state he may die. Nature, often, taking advantage of this condition, in which the irritation from external objects is removed, relieves the congestion, and the fit terminates in sleep, from which the patient may awake, in some measure, calm and collected, and frequently the disease ends here. Sometimes, however, there is a succession of these fits, in any one of which he may expire, with all the symptoms of cerebral compression.

What, then, do the preceding symptoms indicate? Is it a condition similar to that state of the system in which the health may be vigorous, and the vis vitæ abundant, and in which, from a determination to the brain, from an active circulation, heightened by some temporary excitement, a sudden congestion, or effusion, takes place in that organ? We answer that it is not, and contend that the disease is one of debility, and consequent irritation, and would explain it as follows, remarking, *en passant*, that in no case is the impropriety of prescribing for symptoms, without a proper estimate of the cause of disease, more strikingly illustrated.

"Sine quo nec curare nec præcavere licet."

We shall be better prepared to form an opinion on this subject, when we reflect on the characters of those who are obnoxious to delirium tremens. They are not such as seldom yield to indulgence, and who soon throw off the slight indisposition produced by an occasional debauch; but it occurs in habitual drunkards, those who are frequently guilty of great excesses. Persons of this description, yielding themselves up to constant excitement, induce an artificial bracing of the nervous system, which requires the continued application of the accustomed stimulus, in order to preserve its unnatural tone. If, through any cause, this stimulus is suddenly abstracted, the real debility that has been effected by a too rapid consumption of the vis vitæ is felt, and all the symptoms of morbid sensibility and irritability are excited. This condition pervades the sensorium, in common with other parts of the nervous system, and is in proportion to the length of continuance, and degree of intensity, of the previous excitement. Hence those undefined, and uncontrolled motions, of the muscular fibre, being independent of the direction or restraint of the nervous power, in proportion to its diminution. This remark applies also to the muscular coat of the arteries, and explains the irregularity of pulse observed in this disease.

The vascular system not only partakes of the general debility, but is also secondarily affected through the medium of the nerves. Hence the increased mobility of the arteries, being unduly sensible to the impression of their natural stimulus, the blood, whilst, at the same time, they suffer a real loss of power. The above conditions obtain in the first stage of delirium tremens, and from them we would have to explain all the symptoms of the disease, if it was uniform, or, if nothing farther occurred, to produce a modification. When, however, we take into the calculation the congestion that supervenes, and reaches its height during the second stage, causing a mechanical obstruction to the circulation of the blood, we shall be enabled to account for all the phenomena of pulse, and other symptoms manifested from the commencement to the close of the disease.

That congestion does take place, is proved by post mortem examination, and the symptoms of it are so striking, that none conversant with the disease will venture to deny its existence. It occurs particularly in the veins, depending upon a reduction of the vis a tergo, the naturally passive, and preternaturally relaxed condition of these vessels. Perhaps, too, some change may be operated upon the blood itself, tending to retard its circulation, which effect may be produced through the medium of the coats of the vessels, and may ultimately be ascribed to the lebilitated condition of the nervous system. Why congestion hould be manifested particularly in the brain, may be inferred not only from the last consideration, but also from the tortuous distribution of its vessels, and the large supply of blood determined to that organ.

When this effect has been produced, we may readily conceive how it must react upon a debilitated, and unnaturally irritable sensorium, giving rise not only to marked symptoms of compression, but also to violent delirium, becoming more aggravated as the disease advances, and as the cause increases. When the pressure upon the brain has become so great as to be no longer endurable by the oppressed organ, the third, or apoplectic stage, is induced, which is always more or less dangerous, but particularly so if effusion has taken place, and is the cause of this condition.

Such being (as we conceive) the disease, it remains to consider the treatment of it. This part of the subject we would divide into three heads.

1st. The treatment of the disease when uncombined.

2d. When connected with injuries.

3d. When combined with other diseases.

Another, and subordinate division, may be made into physical and moral.

First, when uncombined. As in every other disease, a variety of circumstances may tend to modify our treatment, although the general principle may be the same.

This intelligent mode of proceeding, is often the only distinguishing characteristic between an empirical and rational practice. If we are called early to prescribe for delirium tremens, we must take into consideration the age of the patient, the state of the stomach and intestinal canal, and how far the disease has progressed. If there exists a disordered state of the stomach, manifested by nausea, and a foul and furred tongue; if the disease be incipient, and the constitutional debility not permanent, of which we may judge by the appearance of the patient, his age, and, if we can obtain it, an account of the length of time that he has been intemperate, and whether he has suffered under former attacks; we may, as preparatory to the principal treatment, prescribe an emetic; and we would prefer ipecacuanha alone, or combined with calomel. The following formula we have been in the habit of using, especially where the bowels have been neglected, and are very costive.

℞ Submur. hydrarg. grs. v—x.
Pulv. ipecac. grs. x.
Pulv. rhei, grs. xv.—m.

This recipe will generally act as an emetico-cathartic, and, after vomiting, the patient once or twice dislodging a quantity of depraved bile, it acts pleasantly upon the bowels, and renders the exhibition of opium more happy and effectual. We have also supposed, that the mechanical effect of vomiting has tended to circulate the blood more freely and generally, and thus to postpone the congestion which is now about to take place. This treatment we would confine, however, to those cases in which the aforementioned conditions hold; when, however, the patient is advanced in life, very much broken down, and the disease has made considerable progress, we would prefer the exhibition of some warming purgative tincture; and none is more appropriate, and more applicable, in all the stages of the disease, than the *elixir proprietatis.* This medicine acts happily upon the liver, and induces a more healthy performance of its function. Or if the costiveness of the bowels be a prominent symptom, requiring a medicine that is more quick to operate, we may use the following:

℞ Sulph. magnes. ʒj.
Rad. gentianæ, contusæ.
Rad. rhei —— āā ʒij.
Semin. coriand. ʒj. Adde
Aq. bullient, ℥viij. Infund et cola. Exhibe ℥iv. pro dos.

If this should not operate readily, we may aid it with an enema. The above is the full extent to which, in an ordinary case, we would carry the emetic, or purgative treatment; and seldom have we done any thing more in this way, than to direct a simple injection, after which we have had immediate resort to *opium* and *tonics.*

Opium is the medicine allowed to be the chief object of reliance in delirium tremens. It has a threefold beneficial operation. By its stimulant quality it keeps up the tone of the system, thus preventing the progress of the disease, until, by more permanent tonics, a more durable effect is produced. By its peculiar soothing influenc upon the nervous system, it allays irritability, and by its soporific property it procures sleep, during which all external sources of irritation are excluded, proving, in reality, nature's "calm restorer."

In order to assist nature in generating an increase of vital power, we should second the influence of opium by other stimulants and tonics. Even a diminished quantity of the same, to which he has been accustomed, in *certain cases*, and given in the form of milk punch; but rather by the substitution of others partaking of more permanently tonic powers; such as porter, ale, beer, well hopped. These last are the best drinks that the patient can use; besides their other effects, they also aid the opiates in producing sleep. The form of using opium to which we have a partiality, is the following:

℞ Tinct. opii, gtt. lxxx.
Tinct. humul. lupul.
Tinct. valerian, āā ʒj.
Aquæ menthæ, ℥ ss. m.

This is to be repeated every third or fourth hour until sleep is produced, being careful not to suffer its stimulant effect to cease for want of repetition. Whilst this is being administered, we must endeavor to impart vigor to the system by other means.

The food should be light, easily digestible, and nourishing, paying attention that it does not exceed in quantity and quality, the capacity of the stomach to retain or digest it, which organ we must remember is, in this disease, weak and irritable. As a condiment, the capsicum annuum is preferable to any other. Often, by the above plan, the disease may, in a short time, be checked, and sleep induced. After which we must gradually diminish the use of opium, and the other more diffusible stimuli, substituting the malt liquors, and watery infusions of the bitter tonics. The last may be persevered in after discontinuing all the others, and thus the patient's necessity and propensity for strong drink be obviated and corrected. By this mode of treatment, it is often astonishing how soon the most untoward symptoms may be removed, the balance of the system restored, and the constitution regain its wonted energy.

With respect to moral treatment, it is sometimes necessary to assume a harsh and determined manner, in order to keep the patient under some control. Most frequently, however, mildness is to be preferred and exercised, humoring their fancies when they are not of a very unpleasant nature, and gently expostulating, and attempting to convince them of their unreality when they are. The patient should not be left alone, or without an effectual guard, otherwise he may injure, or destroy himself. This may be illustrated by the following case.

A young man, rather intelligent, the mate of a ship, was the subject of delirium tremens. The prevailing phantasm with him was, that the devil, and a host of evil spirits, were in pursuit of him. In the midst of conversation held with him, and in which, by soothing expostulation, he would be influenced momentarily to lose sight of the objects which troubled him, he would abruptly address himself to them, and order them to depart; or, with a countenance expressive of the greatest anguish, and with all the energy of seeming despair, he would break from those around him, and, rushing, attempt to escape by leaping out of the window. A friend, (whose patient he was,) and myself, thought it prudent to sit with him during the night, in order to engage his attention as much as possible, and prevent him from injury, until such time as sleep might be induced by the remedies employed. Towards morning, having laid himself on the bed, and appearing disposed to sleep, he was left to the care of others, with injunctions that he should be strictly watched and guarded. These orders were not attended to, and he was suffered to leave the ward unattended, soon after we had left him. He went directly to the coach house and hung himself, where he was found suspended, and dead, a short time after the act was perpetrated. This person was easily managed, and his life might have been preserved, had the persons to whom he was intrusted taken sufficient interest in the matter, or been aware of the importance of obeying the directions given them. As a general rule, we have observed, that the gentle method is the best. Sometimes, however, they require to be harshly spoken to, in order to restrain them from outrageous conduct. If this is found to irritate them, and excite a violent spirit of opposition, it had better be discontinued, and other means of restraint resorted to, of which there are different kinds, and as it is not unimportant which is used, we will express an opinion on the subject.

Evidently, the most judicious plan is, for persons having muscular strength, and judgment properly to exercise it, to remain with the patient, to restrain him when necessary, and prevent him from doing injury to himself or others. It is, however, not often in our power to obtain such attendants, and it then becomes necessary to use more mechanical means, such as the straight jacket, or the chain. Under ordinary circumstances, or where there does not exist any thing to forbid the use of the latter, we would give it the decided preference, and would protest against the use of the former, if the case can in any way be managed without it. We think that the straight jacket was the immediate cause of death in a case that came under our observation. The patient was violent and outrageous. He was intrusted to persons who ordinarily were trustworthy, and who were enjoined to watch him, and oppose his injurious attempts by manual force. Becoming tired of their occupation, they tightly invested him with a thick canvass jacket, by which his arms were bound down by his sides, and considerable pressure made upon the trunk of the body, thus opposing the expansion of the chest, and obstructing the circulation. The continued exertions of the patient to rid himself of the incumbrance, and the confined condition in which these attempts were made, exhausted him more and more, increased his irritability, and forced the blood, in an undue degree, to the head, and, finally, terminated in a fit that was instantly fatal. The brain was examined soon after death, and both membranes and substance, arteries and veins, were found engorged with blood. Had his motions been less constrained, this result might not have followed. We were, previous to this occurrence, opposed to its use, from observing the flushing of face, and exhausting effects produced in other cases, by the straining efforts of the patients to remove it. If ever used, it should be put on loosely.

I would much prefer, in these cases, the use of the iron chain.* This means is more repugnant to our feelings, and seemingly more harsh and injurious than the other. So far, however, is this last from being the case, that I have observed an almost immediate good effect, even as a remedy, produced by the application of a chain. The patient, under these circumstances, often imagines that he is confined for some crime, and after making ineffectual attempts to get loose, these attempts being principally confined to picking at the chain, he submits; or if even his endeavors are continued, they are less injurious than others; often his attention will be diverted from more unpleasant objects, the chain being the principal attraction. The mode of using it is this: one end of it is to be fastened to a staple driven in the floor at a distance from any object against which he might fall, or with which he might injure himself; the other is to be applied to his ankle, taking care that it be well padded, that it may not bruise him. A mattress is to be laid on the floor for him to lie upon. It is by no means to be understood, when this has been done, that the patient is to be left alone. He must still be carefully, and constantly watched, the above means being merely auxiliary, and intended to render him more manageable by *ordinary* attendants.

Having thus taken a view of the disease when uncombined, I would observe, that it is far more difficult to manage when complicated with fractures simple or compound, or immediately after surgical operations. The irritation from these injuries often gives rise to the disease, where otherwise it would not have occurred. Sometimes these cases are truly appalling. I have known a patient to get out of bed, and come to the floor on one knee, and the stump of a thigh recently amputated. Fractures it is almost impossible to keep in proper position. In these cases, extraordinary care must be taken to restrain them, and we must avoid as much as possible the administration of medicine, the operation of which would occasion motion. The patient must at first, and at all hazards, be quieted by large and repeated doses of *opium*. As to other stimulants and tonics, their quantity and quality must be governed by circumstances.

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* We would add to our own opinion on this part of the subject, the experience of the humane and judicious superintendent of the New-York Hospital, Noah Wetmore, Esq.

When delirium tremens is combined with other diseases, it requires the greatest judgment to modify the treatment. It is more difficult to cure than under other circumstances, and the combination is often fatal. As far as inflammatory diseases are concerned, we would remark, that they bear venesection badly. Whatever is done in this way, as a general rule, must be done early, sparingly, and at once. A repetition is seldom proper. If we wish to carry blood-letting any farther, it had better be done by leeches and cupping.

As blisters are great sources of irritation, and require a length of time to produce their effect, we would prefer mustard cataplasms, dry cupping, or even the tartar emetic ointment, as substitutes. Antimonials are proper, and should be combined with opium and calomel—this last keeping the bowels soluble. I know of no cases of inflammatory disease in which the judicious exhibition of opium is more loudly called for. It has been recommended by some with *proper restrictions*, and by others *in a very careless manner*, as applicable to inflammatory diseases generally. In this combination it must be given *freely*, and comparatively with but little preparatory antiphlogistic treatment.

When delirium tremens is complicated with dropsical effusions, which is often the case, the predisposing cause of the latter is debility, the immediate cause, visceral obstruction, both being the product of intemperance.

If the symptoms of the first disease are pressing, we must lose sight of the latter, except in so far as the treatment of it does not materially interfere with the remedies proper for the other. *Opium* must still be given, but we may combine it with calomel and diuretics.

On one occasion I witnessed the following combination. The patient, a man about 65 years of age, but to appearance much older, was seized with delirium tremens, accompanied with ascites in a slight degree, anasarca, and a spontaneous mortification of the toes and feet. Notwithstanding the unpromising circumstances of the case, yet by the liberal use of opium, tonics, diuretics, &c. prescribed and modified to meet the symptoms, the patient, after a time, appeared to improve. The delirium was subsiding, the dropsy diminished, and sloughs separated from the feet, leaving healthy granulating surfaces, the largest about the size of a half-crown piece. He was now using ʒ ss. of elixir paregoric every second hour, and frequent doses of sulphate of quinine, and other stimulants and tonics.

His appetite improved, though the stomach was still irritable and weak. It had been so much so at one time, as to bear nothing but liquid food, in small quantities, and with which was mixed a portion of gin, his usual stimulus. Under these circumstances, a friend gave him for breakfast a piece of beef-steak, which he ate with taste, but which his stomach soon rejected. It brought on vomiting, that could not be allayed. He continued for the greater part of a day, rejecting every thing that was offered him, both food and medicine, when he gradually sunk, and expired.

Perhaps no disease has been, and is, more misunderstood, than delirium tremens. Observing the full, compressible, laboring, and irregular pulse of irritation, the product of debility and congestion, many have confounded it with that condition of the brain resulting from congestion or inflammation, from increased action, and a powerful determination to that organ, manifested by a *hard*, *strong* pulse.

They have accordingly been in the habit of treating it by blood-letting, blisters, and all the active antiphlogistic remedies, none of which are appropriate. The only patient in whom this disease proved fatal, as uncombined or complicated with injuries, during a practice upon the principles laid down, of two years, in an extensive hospital* establishment, and where it was of frequent occurrence, was the person already alluded to. He was bled about ten ounces, the symptoms indicating the propriety of it, as much as in any case we ever witnessed. He was about 30 years of age, and apparently robust. The reason why no more blood was abstracted, was, that faintness, sudden sinking of the pulse, and profuse sweat rolling off his face in large drops, showed that nature abhorred the remedy. We have observed the same thing on other occasions, so that experience and reason teach the impropriety of adding to the debility and irritation already existing, by exhaustion from loss of blood.

It may be said, that, admitting the disease to be such as has been stated, yet, as congestion is one of the most important conditions of it, our indication would be to abstract blood, in order to take off the distention, and enable the vessels more quickly to recover themselves.

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* New-York Hospital.

To this we would reply, that there is no rule so general, to which there may not be exceptions*—that perhaps cases *may* occur in which the loss of a few ounces of blood might be compensated by a good effect in this way. And we would here remark, not only as applicable to this, but all diseases, that physicians are occasionally induced to depart, in some measure, from their general rule of practice, by minute peculiarities in different cases, more easily appreciated by themselves, than explained to others; and these acts seem to be rather intuitive, than resulting from the ordinary modes of ratiocination. Those who have had much opportunity of witnessing diseases, will understand this assertion. But we would still insist, that blood-letting, having no influence in removing the cause of the disease, but tending to aggravate it, is generally injurious, and seldom justifiable.

With regard to blisters, they are worse than useless. As far as we can understand their action, and judge of their effect, they are incompatible, and manifestly detrimental. If depletion is our aim in their application, their effect is too trifling to be of any service. If revulsion, there is nothing that can be transferred. From the pain they excite, they add a new source of irritation, and oppose the influence of opium, our sheet-anchor in this disease.

Of purgatives I have already spoken, and would only add, that according to circumstances must be their quality, quantity, and frequency of repetition.

In the complicated forms, after we have removed the delirium tremens, it will be necessary to use the same remedies in kind, if not in degree, as would be indicated in such diseases, when not connected with this peculiar state of the system.

I am aware that a different view of this subject has been taken, and that the disease in question has been ascribed to a heightened activity of the sensorium, from the generation of an unusual vital power. This opinion we hold to be erroneous, and, as such, calculated to produce a bad effect. For, although some who profess it may empirically prescribe proper remedies to a certain extent, and thus as practitioners avoid the evil that would result from forming their treatment upon their theory; yet there may be those who, being induced to adopt the same pathology, but not discovering any connexion between it and the mode of practice, may yield the latter to the hypothesis, and thus do much mischief, the disease being one of frequent occurrence.

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* Suppose the case of a young and robust person, who, by his excess has induced delirium tremens, and who, from the natural vigor of his constitution, soon rallies, recovers his nervous tone and muscular strength, but in whom this recuperative process has been so rapid, that the removal of the congestion has not proceeded "pari passu." In such case, *cupping* and *leeching* may be useful and proper.

We can understand how vital power may be generated, by those means that tend to improve the health, and increase the vigor of the body; and also how an unusual stimulus may call into undue exercise that which already exists, and thus cause a too rapid consumption of it. But when, from irregular habits, the constitution has been injured, and when the excitants calculated to keep up artificial strength have been suddenly abstracted, we are prepared to witness a general state of debility, and not a generation of vital power.

The heightened activity of the sensorium we would call irritability; the manifestations of which, are peculiar symptoms of debility, appertaining to the nervous system, rendering it obnoxious to the slightest impressions, both external and internal.

We observe the same effect produced, to a certain extent, in weakly habits, by the free use of other articles besides ardent spirits, such as opium, tobacco, strong tea, and coffee. They at first are exhilarating, and then we see heightened activity, from a forced exercise of vital power. But when the immediate effect passes off, can we with propriety give the same explanation to the condition that is left, and call the tremblings of muscle, the watchfulness, the palpitations of the heart, the melancholy imaginings, and all the other nervous symptoms, heightened activities from the generation of unusual vital power? Was this the case, our indication would be to reduce this vital power; and we have more direct means of doing so, than by administering repeated doses of opium and cayenne pepper.

In conclusion, we would say, that ardent spirits should rather be avoided, but that cases may occur in which a small quantity is not only not injurious, but is even necessary. In general, however, malt liquor is the best substitute, and, next to opium, the best medicine that can be used in delirium tremens, being meat, drink, strength, and sleep—all of which we wish to administer to the patient.

ART. V.—*The History of a case of self-performed Cæsarean Operation. Read before the Medical and Philosophical Society of New-York.* By LUKE BARKER, M. D.

THE history of remarkable cases, although, perhaps, strictly speaking, not practically useful, should, nevertheless, be put on record, both for our own benefit, as well as for that of the succeeding generation. It is with this conviction that I am induced to lay before the Society an account of the following self-performed cæsarean operation, which occurred in my practice in the year 1817, while a practitioner in Lancashire, England. The operation must have been performed, either under a state of mental derangement, or of great excitement of mind, though I am inclined to believe that the latter was the case.

Mrs. P., aged from thirty to thirty-five years, and mother of four living children; of low stature, legs and thighs crooked, and pelvis rather under the ordinary size. Her health generally delicate, and temperament nervous. She was taken in labor on the evening of the 5th of September, 1817, and sent for the gentleman who had in a previous confinement attended her. On arrival, he found the pains lingering and insufficient; he therefore, after giving proper directions, left the patient in the care of a midwife of the neighborhood, who continued with her the whole of that night, and the following day. The labor during this time had progressed very little, and as the patient's spirits became exhausted, they concluded to send for the doctor again; but he being out of the way, and not likely to return soon, I was requested to visit her. On doing so, I found the pains still lingering and tedious, though nothing either unusual or unfavorable manifested itself in the case. I endeavored to encourage her, by holding out assurances, that, in all human probability, in a little time she would do well; and that I would send an experienced student of mine to remain a few hours, or until such time as the labor increased. He remained with the patient until five o'clock in the morning, and then left her, as the pains had in a great measure ceased.

About eight o'clock, same morning, her husband coming into the house, (and at a time when the poor distressed wife needed all the consolation of her partner,) began to abuse her very much, because (as I afterwards learned from her own lips) she was not delivered. This highly improper language excited her feelings to such a degree, that she formed the resolution, either to deliver herself, or to put an end to her existence. About an hour afterwards, she slyly went into a back room, and seized a weaver's knife, such as is used for cleaning and picking the cloth,* and made an incision on the left side of the abdomen, in an oblique direction, about five inches in length, and which must of necessity have divided the epigastric artery. The instrument went through the integuments, muscles, peritoneum, and even the womb itself, as the placenta was found presenting at the wound. The bleeding of course was very great, for on my arrival, which was in about half an hour, the patient laid, to all human appearance, dead—literally drenched in her own blood. My attention was first directed to the wound; and, on ascertaining that the placenta presented, and that the opening was large enough to admit of delivery, I proceeded to this operation; first, by removing the placenta, and then the child, which was of large size, but dead. I then cleared away the coagulated blood, and closed the wound, retaining the parts in apposition by three or four sutures, adhesive plasters, and a bandage. During this period, signs of returning life appeared, and, in about an hour, she had so far recovered as to be able to swallow an opiate draught.

One o'clock P. M. four hours after the operation. Pulse 100; very thirsty; almost free from pain, and could speak with ease. 7 P. M. Pulse 140; thirst continues; a slight flow of the lochia; no pain, and says that she feels as well as she ever did after any of her former deliveries.

Second day, eight A. M. Has slept three or four hours during the night. Pulse 140. Tongue dry and parched, and some little pain and tumefaction of the abdomen. Castor oil and enemata were ordered. 2 P. M. Pulse 140. Pain and swelling both increased, and mouth very dry. The medicines have not operated. Ordered the oil to be repeated every hour till the desired effect is produced, and twelve leeches to the abdomen. 7 P. M. The oil has operated; the urine freely discharged, and the topical bleeding quite considerable. The pain and tumefaction somewhat abated. Pulse 150. An opiate draught was ordered for the night, together with such other remedies as were calculated to subdue the inflammatory action. The patient, however, as was anticipated, continued to get worse; and at two o'clock in the morning, forty-one hours after the operation, she breathed her last.

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* A weaver's knife has a cutting or sharp blade, of about three inches in length, with a projecting sharp point of one inch; the other end, which forms the handle of the instrument, is formed into small nippers.

On examining the body twelve hours after death, the incision looked well, and was in part united; the epigastric artery had not bled any, though there can be no doubt whatever but that it was divided in the operation. The peritoneum and uterus were both very much inflamed, and the latter, at the place of incision, was in a state approaching to mortification. The stomach and bowels were distended, the former with fluids, and the latter with flatus. The bladder was found nearly empty.

Such, then, is a brief account of this singular case; I say singular, because we have but very few similar ones on record. At present, I can only call to recollection the two following, viz. that of a negro woman in Jamaica, West Indies, reported in Moseley's work on tropical diseases; the operation was performed with a broken butcher's knife; the woman recovered, and the child lived six days. The second took place in Rensselaer county, New-York; the incision was made with a razor, and the patient perfectly recovered in a few weeks. [Vide New-York Medical and Physical Journal, vol ii. p. 40.]

ART. VI.—*Note on the Operation of Lithontripty, recently performed in this city. By* L. DEPEYRE, M. D.

AMONG the many improvements of modern surgery, that of lithontripty is perhaps the most remarkable. The stone is a horrible disease, and to relieve the patient, we are compelled to have recourse to a tedious and excessively painful operation. There is no practitioner, we imagine, who does not experience a feeling of compassion, when he is compelled to recommend this operation; nor a patient, however determined, who does not, when the operation is proposed, feel as if he would rather die than submit. The disease, however, makes progress, the pain increases, becomes continual, and gives assurance of death at no far distant period; and this prospect of death, accompanied with excruciating tortures, finally determines the wretched patient to submit to the chances of a painful operation, rather than to endure the agonies of an incurable disease.

All are acquainted with the details of this operation, rendered still more frightful by the preparatory measures, its dangers, and its often fatal result. Every practitioner is aware of the many infirmities which often occur even after the most successful operation. Urinary fistulæ, after the sub-pubic and recto-vesical operation for stone, occur more frequently than is generally avowed. Notwithstanding the number of works written ex professo, the essays and observations on the operation for stone, it is always considered as attended with hazard. The number of works, of instruments, of processes, either new, or supposed to be so, prove how unsatisfactory all former results have been considered.

The ancients endeavored to render this operation useless, by inventing machines for destroying the stone in the bladder, without cutting either the bladder or its neck. They failed, however, in their attempt.

This idea has been more successfully pursued by the modern French surgeons, among whom we must assign a conspicuous place to Messrs. Le Roy and Civiale, in reference to the operation now about to be detailed. The works and the instruments of these celebrated surgeons have been scattered over Europe and America, but hitherto the operation has not in many cases been successful. The following is, as far as I have been able to learn, the first successful operation performed on this continent.

Mr. B., aged sixty-one years, of a lymphatico sanguine temperament, remarkably corpulent, consulted me some time in the month of October, 1830. The patient had many symptoms which led him to suspect the existence of a stone in the bladder; the most convincing proof with him was, that for many years previously he had frequently passed many urinary calculi. Some of these had been sufficiently large to remain for some days in the urethra, but he managed to disengage them without having recourse to surgical aid. Within a few months he had observed, that while passing his urine, the jet would be suddenly interrupted. The bladder certainly contained more urine, for the desire to pass more still continued. It was evident to me that there existed a calculus in the bladder, and a silver sound, which I introduced immediately, justified the prognosis.

The patient, more anxious for the future than actually suffering from the disease, was naturally desirous of being released from his complaint. Lithotomy was not to be had recourse to, and the patient declared he would rather die than submit to that operation.

I proposed Lithontripty, and it was readily acceded to. In order to perform this operation, I could only obtain an instrument with a handle, (*lithontriteur a manivelle,*) which is very imperfect and feeble in its operation; but as the calculus was probably of no great size, I supposed that this instrument would suffice.

The bladder having been previously injected with tepid water, I introduced the instrument, and soon seized the calculus, the size of which I estimated to be about fourteen lines in its greatest diameter. As soon as the drill touched it, it appeared to be hard, and gave out a sound sharp enough to be heard distinctly by the patient himself, and by those who were present during the operation. As I soon discovered that the drill acted very slowly upon the stone, I suspended the operation, and resumed it a few days afterwards, with a new drill, which, however, did not wear away the calculus much faster than the first. After each of these operations, I was encouraged by observing that the patient passed considerable quantities of fragments of stone.

The incomplete success of these two attempts induced me to cause to be made an apparatus like that of M. Civiale, and on the 29th of November I again introduced the instrument.

The calculus was seized two different times, and was perforated through its whole substance on both occasions with a drill, three lines in diameter. The operation lasted fifteen minutes, and did not occasion the least pain. Upon withdrawing the instrument, the patient passed with his urine a whitish powder, mixed with fragments of different sizes, among which I noticed one about the size of a pea. The patient felt, during the remainder of the day, some inconvenience from being frequently compelled to pass his water, and each time it was accompanied with small fragments of the calculus. Emolient enemas, and mucilaginous drinks, so rapidly subdued this irritation, that the patient wished the operation to be repeated a few days afterwards. As a matter of precaution, I did not, however, resume it until the 8th of December.

On this occasion I experienced much difficulty in endeavoring to seize the calculus. It escaped twice just as I was about to make it secure. I finally succeeded in seizing it, and from the extent of the dilatation of the arms of the instrument, I was satisfied that I had it in an entirely new position. By cautious management, I was enabled to drill it throughout in three different places, and when I had finished the last drill, the dilation of the arms of my instrument indicated a diameter of five lines. The whole time consumed in this operation lasted forty minutes. As in the preceding essays, the patient was merely fatigued from his position, and experienced no pain. When the instrument was withdrawn, he passed his urine, with an abundant discharge of fragments, some of which were as large as those which I have already noticed.

During this operation I collected but a small quantity of the debris of the calculus, and only some of the larger fragments, and notwithstanding the gradual diminution of the arms of the instrument, I thought that fragments of the stone might still remain. The symptoms of the disease had never been violent, the desire to pass water continued, and although the urine flowed with an uninterrupted stream, yet my impressions were strong that the stone had not entirely disappeared. To ascertain this, I made three explorations in the course of fifteen days, with the arms of the instrument widely extended, and continued my researches with the greatest minuteness, without finding the least trace of any foreign body whatever. In the course of a few days I had the satisfaction of seeing the health of my patient perfectly restored; and he assures me that he feels nothing of his former disease.

Abstaining from all the details of the operation, which are explained at length in the books, I am, gentlemen, very respectfully, &c.

L. DEPEYRE.

Chambers-street, *January* 14, 1831.

RETROSPECTIVE ANALYSIS.

Précis d'Observations sur les corps étrangers arrêtés dans l'œsophage et dans la trachée artére, avec des Remarques sur les moyens qu'on a employé, ou que l'on peut employer, pour les enfoncer, ou pour les retirer. Par M. Hevin. Memoires de l'Académie Royale de Chirurgie. Tome premier. Paris, 1743—4to.

A Summary of Observations upon foreign bodies engaged in the Esophagus and Trachea, with Remarks upon the means which have been employed, or that may be used, in forcing them forward, or withdrawing them. By M. Hevin. Memoirs of the Royal Academy of Surgery. Volume 1st. Paris, 1743.

It is not often we meet with so complete a treatise on any subject, as the one now selected for analysis. The danger following upon the obstruction of the esophagus by extraneous bodies, the prompt application of the required means of relief, and the whole combination of circumstances connected with the accidents referred to, are all so amply treated of, that there can be little hesitation in believing that our choice will be satisfactorily appreciated. Assured, however, as we may be of this, and notwithstanding the manifest practical utility of a subject of the kind, yet we are aware that it may not possess an equal interest with all our readers. Some, perhaps, delight in laboring through profound and abstruse investigations, while others prefer to wander among the ingenious intricacies of theory, or, nice in the turn of a sentence, to sacrifice all useful information to the polished rhythm of a period, or the measured length of a paragraph. We justly esteem the tastes of each; but, after all, we do not err much in the opinion, that the majority of those we should be most anxious to please, are best gratified with that truly practical knowledge which is based on experience, or the plain deductions of common sense, and isolated from all hypothesis and studied polish. This is the only genuine philosophy; and whether as readers or writers, they best vindicate the object of intellectual being, who make such a taste the rule of conduct in contributing to the common stock of practical knowledge, or to the improvement of their own minds. That such is the case we need only to reflect that there is this connected with practical, unsophisticated facts; they leave no room for controversy; they are intangible by argument, and truth and utility are their essential concomitants. It should be remembered, however, that, as some author observes, there are such things as "false facts;" facts having their origin in ardent and prolific imaginations; truths perverted to substantiate preconceived or crude opinions, or mutilated to support contested doctrines. To guard against a too ready credence in these is peculiarly important, in order to judge correctly of what is truly valuable. Some of the cases related in this memoir may, at first sight, appear to require this attention, but we ought to recollect that the bounds of probability are not to be established always by our own experience; this would be too arrogant an assumption of human reason. The earlier writers certainly were obnoxious to credulity and exaggeration; hence their ready faith in the wonderful, and the many recorded instances of events, which, unobserved at present, or exciting but little curiosity, were by them considered as unnatural, rare, or extremely interesting. From the examples thus furnished us, we have become familiarized with the strange vagaries of nature, and those casualties which only appear once in a century. Profiting, therefore, by their accumulated labors, and enlightened by the continued accession of knowledge, we are better able to judge of the value of the cases related in their works, and to reap from them a rich collection of practical truths. We are sanguine in believing that such will be the result in the present instance, and that those who know any thing of similar labors, will fully estimate the research of M. Hevin.

Nothing connected with the subject has been left unnoticed, and so complete is the summary, that nearly a century has passed without adding any material facts to the mass of information so industriously collected.

With these prefatory remarks we shall at once commence with the introduction of M. Hevin. "This memoir," says he, "is but a series of observations; the subject itself is not of that kind which can be reduced to principles, nor can the facts developed furnish us with a *theory* of any importance in practice; nothing but *experience* can avail us here; it is, therefore, that we have added to the observations communicated to the Academy, all that ancient and modern authors have written on the same subject. The diversity of effects that are produced, not only by bodies of a different nature, but also by those of a similar kind and form, the different success of the means employed, the dangers more or less alarming to which persons are exposed by the presence of these bodies in the esophagus, the consequences which it is important we should foresee will follow when they are received into the stomach, &c. with all their attendant circumstances, cannot be known but by a simple recital of the facts themselves. This mode of treating subjects of this kind demands much amplification, but the only road which can conduct us to an acquaintance with all points of practice, is that where we are instructed fully and faithfully by examples."

The author enters at once upon his labors, by dividing the different cases into four classes; 1st. Foreign bodies which are arrested in the esophagus, and which may be forced into the stomach. 2d. Those that should be withdrawn. 3d. Those which cannot be withdrawn, and which we are obliged to thrust forward; and, 4th. Those that are swallowed, or engaged in the esophagus, without being able to withdraw them, and which, when they are forced into the stomach, cannot be discharged by the natural passages.

FIRST.—Foreign bodies which are arrested in the esophagus, and which may be forced into the stomach.—These are chiefly small bones that have neither points nor inequalities capable of wounding the stomach or intestines, cartilaginous substances, small pieces of money, or counters of gold, silver or copper, balls of lead, glass or crystal beads, the stones of fruit having an even surface, pieces of meat, fruit, crusts of bread, &c. There are many cases related where these and similar bodies have been lodged in the esophagus with threatening consequences, but where all alarm has ceased when forced into the stomach.

Parrotin, Paré, Forestus, Schenkius, Fabricius, and De la Motte, severally relate cases where various articles of food thus arrested have been displaced, and passed into the stomach, by means of leeks, bougies, probangs, &c. These bodies are generally only dangerous from their volume; they are not, however, the less formidable, for they may be so large as very quickly to produce death. Le Dran relates a case of a man who ate a large piece of meat which he was unable completely to swallow; he withdrew from the company in order to reject it; those who were present not being aware of the accident, and perceiving that he did not return, became anxious on account of his absence, and upon searching for him found him dead. Fabricius Hildanus also relates two cases; one where an infant was fatally strangled by a piece of cake, the other where a man died from a piece of meat lodging in the pharynx. The history of a similar accident is given by Beckerus; and Wierus speaks of a man who, through bravado, attempted to swallow an unbroken egg, which, stopping in the esophagus, pressed so strongly on the trachea that he immediately fell a victim to his temerity.

From their firmness of texture, fruits are more dangerous than meat, as the last, from being more readily compacted by the convulsive attempts at swallowing, less readily impede the respiration.* Accidents from these bodies may be found related in the works of the older authors. Among others, there are two curious cases in Schenkius. A boy, in tossing a pear in the air, caught it in his mouth, and was immediately strangled, and a musician was killed by having a fig thrown down his throat while singing.

Hard bodies that are of a size and figure that will permit them easily to pass in the intestines, are to be little feared, although they may have been received into the stomach with difficulty; such accidents are occurring daily. Small bones, pieces of money, glass beads, rings, buttons, and even keys, have been known to have been discharged by stool. The long time that such articles will remain in the stomach and intestines without inconvenience, has often been remarked. Bonetus, in the German Ephémérides, speaks of a child who swallowed a gold ring, which passed from the bowels some weeks afterwards, and Hœchstetterus relates an instance of a young man who placed a gold ducat in his mouth in order to quiet the pain of a toothache. He fell asleep, and swallowed the coin without being aware of the accident. Some months afterwards his voice became hoarse, and he emaciated so rapidly that he was obliged to have recourse to medical advice. At the end of two years he returned the coin by the mouth, with one of its faces whitened as if rubbed with quicksilver. That foreign bodies should remain such a length of time in the stomach, is owing more to some peculiar circumstance, than to an inability to be discharged through the pylorus, and thence through the intestinal canal, for we know that similar extraneous bodies are often ejected in the course of a day or two, either by the mouth, or by the stools.

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* The danger arising from the obstruction of the esophagus is not solely to be attributed to the mechanical effects upon the trachea. "It is the spasmodic constriction by the muscles of the glottis. There is a provision in the muscles of the glottis, and in the falling down of the epiglottis, against any particle of food passing into the trachea. The same correspondence and sympathy which protects the trachea from what is noxious, is the cause of suffocation when either any small body has passed the glottis, or when a bone, or a piece of meat, sticks in the pharynx. Even when a piece of tough meat, or cartilage, or large bone, distends the esophagus, it does not compress the windpipe, but affects the muscles of the glottis only."—C. BELL. System of Operative Surgery, vol. i. p. 1.

Ingenuity has always been ready to devise various means for disengaging foreign bodies from the esophagus, and forcing them into the stomach. Leeks, bougies, silver or lead sounds, wire, protected at the extremity with a ball or button of lead, &c., were used by the earlier and more modern surgeons; others caused their patients to swallow large pieces of some particular article of diet, such as turnips, the stalks of lettuce, biscuit, bread, a dried fig everted, prunes deprived of the stones, &c.; and others have resorted to balls of lead, or a large bead attached to a small cord, pieces of beef, or a small piece of sponge of the size of a filbert, dipped in oil or syrup, and well secured by a strong thread. These last, forced forward by the organic action of the esophagus, often answer the desired purpose of carrying or dragging foreign bodies into the stomach.

Many disapprove of the sponge thus used, because, from its lightness it does not appear capable of very efficiently answering the purpose of removing any obstacle sufficient to close the esophagus. There is an objection too to the use of articles of food, for when a person is strangling from the effects of any body of considerable size, the substances mentioned will only cause the sufferer to perish the sooner if they fail in producing the effect desired. Leeks, which are generally so readily at hand, are a very convenient means of forcing downward those substances which are lodged about the upper extremity of the esophagus: some, however, regard them as an unsure instrument, as they may readily break in bending so as to be accommodated to the pharynx. This, too, may even be produced by the violent action of the esophagus.

Fabricius ab Aquapendente preferred an oiled bougie. That it may be prevented from wounding the esophagus, if not very flexible, and that it may the more easily adapt itself to the curve of the passage, it should be softened a little in warm water. This should be particularly attended to during the winter. Albucasis used a rod of lead so small as to be very flexible; it should have upon its extremity a button, or be enlarged in the form of the ordinary probe. Rhasis made use of something similar. Verduc proposed an instrument made of silver or flexible steel, of the size of a writing quill, about eighteen inches long, the two ends of which should be terminated with a conoidal button of the size of a small walnut. The curved silver sound, or stilet, of Fabricius Hildanus, was an improvement upon an instrument of Ryff; the objection to this is, that it is inflexible. The instrument of Petit, however, possesses all the advantages desired; we shall have occasion to notice it more fully in another place.

Remarks.—Although daily experience convinces us that the foreign bodies already referred to may be forced into the stomach without any subsequent evil, yet it should be remembered that exceptions will occur, as may be seen by the many cases on record, where, from the nature of the article, as copper coins, or from the mere presence of extraneous substances, many painful symptoms are produced, and even death may follow.

It sometimes happens that portions of food which have passed without inconvenience into the stomach, are rejected by vomiting, and thus become arrested in the esophagus. This is more likely to occur where the body is of a spongy nature, and hence easily swollen by moisture. Haullier mentions the case of a young girl, who had surfeited upon beef's lungs. She complained of weight in the epigastrium, and frequent nausea, which were followed by excessive vomiting, by which a piece of the lung lodged in the esophagus. Alarming symptoms followed, and continued, until, by very violent efforts, the substance was rejected. In a case like this, it can be easily conceived that it would be bad practice to attempt to force back the body; for, independent of its manifest disagreement with the stomach, from its indigestibility and increased volume, there would be no probability of its passing the pylorus, and thus the patient would again be exposed to a recurrence of the accident. Haullier remarks upon this case, that spongy substances of this kind may remain a long time in the stomach, and where there is debility, or any derangement of this organ, a train of symptoms may ensue, of which the patient can only be relieved by rejecting the offending substance by vomiting. The natural indications, therefore, of which we have spoken, should not be heedlessly counteracted, by forcing back the body, when attempted to be rejected; and it is for these several reasons that it is always better to relieve the patient at once, by extracting the cause of his suffering. A girl fed gluttonously upon calves' lights; the same symptoms as in the preceding case followed, and continued for a long time. She finally discharged a piece of the lights, (although it was four months after she had eaten it,) which was arrested in the esophagus, and nearly caused her death. Fortunately a violent effort loosened it, and it thus easily passed from the mouth.

Sometimes the pieces of food which are detained in the esophagus, or, being completely swallowed, cannot pass through the pylorus, are not only dangerous from their size, but from their nature, or the bad qualities they contract in putrefying, or being broken down while thus confined. Donatus relates the case of a man who swallowed greedily a piece of tendinous food, which stopped in the esophagus, and nearly intercepted the passage of air, and the most liquid aliment. It was impossible to withdraw it, or force it downward, by any means employed. Thus situated, it rotted, and at the end of some days fell into the stomach. The man was relieved of the original distress, but he did not escape death, which happened on the fourteenth day, and which was attributed to inflammation, and the prostration of strength, produced by his long fasting; but, says M. Hevin, the presence of the putrid substance had probably a greater share in this extreme debility, and the death of the person, than the fasting. That this would be the effect, in a great degree, from the mixture by immediate absorption of putrescent substances with the fluids, cannot be doubted, particularly when the attending circumstances of the case are taken into consideration; for however physiologists may reason upon the powers of the *human* stomach, and draw their arguments from experiments conducted on the stomachs of *brutes*, or whatever efficiency there may be in the gastric fluid, in *preventing* the putridity of fresh or untainted food, yet we are still to be convinced, that, when impure materials are received into the stomach, they are as harmless in the one case as in the other. That the purity of the humors are not banefully affected, or that a healthful assimilation of such substances takes place in the human subject, cannot, we conceive, be rationally deduced from the non-occurrence of such circumstances in brute animals. And here we may, by the way, repeat what we have stated at another page, that our knowledge of the relative digestibility of different articles of food is just as erroneously arrived at, when the same mode of experimenting is followed.

We return to our author. Bodies of a considerable volume, that from their nature cannot be dissolved by putrescence, or cannot be digested, he observes, require particular notice. A surgeon, for example, who should be called in cases similar to the following, and who should attempt to thrust down bodies similar to those mentioned, would evidently act more inconsistently than if he should endeavor to withdraw them. Habicot was required by the court to visit a prisoner, who had been found dead in the Conciérgerie. He found in the pharynx a large knot of linen, in which there was a ring, which pressed so strongly upon the epiglottis, as to have produced death. The other case is reported by Meeck'ren. He was called to examine the body of a woman, who it was believed had taken poison, and upon examining the mouth and throat with a *speculum oris*, he found a large piece of linen, covered by a plate of silver. This was recognised as an "*obturateur du palais.*" The woman had lost a considerable portion of her palate, to supply the want of which, she had for a long time worn this instrument. The linen was either much worn or rotten, and the plate, passing the fissure, had fallen into the throat, and pressed so forcibly upon the larynx, that she expired before she was able to seek assistance. The danger of thrusting large bodies of this nature into the stomach, will at once be perceived, for even if they are forced into that viscus, we can scarcely believe that it would be possible for them to pass from it. We have instances where even much smaller bodies retained in the stomach have caused death. Kerchring mentions the case of a child, five years of age, who died from having swallowed a very small piece of money, which entirely obstructed the pylorus. The same accident, followed by like consequences, happened to another child. In this case, the patient died after violent vomiting. Adults are subject to the same danger, of which many cases might be mentioned. It is worthy of remark, however, that although a single piece may produce such fatal effects, yet where a greater number have been swallowed, no very alarming results have followed. In the works of various authors we are told, that a traveller, fearing to be robbed on the road, swallowed, without any bad consequences, six ducats, which were discharged some days afterwards, by the aid of a lavement; that another disgorged, with as much facility, nine louis d'or, which he had swallowed; and that two others swallowed each a rouleau of a hundred louis d'or, which, after exciting violent cutting pains in the abdomen, that remained during the presence of these extraneous bodies in the intestines, were by degrees discharged by stool, withthe assistance of enemata.

These cases, says our author, are instructive, but more interest is excited when similar accidents happen to remarkable persons. The Royal Academy of Inscriptions, mentions a curious fact of this kind in its eloge upon M. Vaillant, a celebrated antiquary. This physician, after having been taken by pirates and kept in captivity four and a half months at Algiers, in returning to France was pursued by a Tunisian corsair. At the prospect of a new misfortune, he swallowed fifteen gold medals preserved from his first captivity. M. Vaillant, however, escaped a second capture, and his first care was to unburthen himself of the treasure that he had hoarded in his stomach, and as nature did not seem disposed to assist him, and having fears of his life, upon his arrival he assembled the faculty of medicine to consult on his case. As is too often the fact, even in these days of accumulated knowledge, each physician prescribed a different remedy, and the unfortunate enthusiast was puzzled which to prefer, and therefore, again abandoned himself wholly to nature; she acted generously, and before he arrived at Lyons, had returned to him more than a moiety of his characteristic deposit. When he reached that city, he treated with the curious by promising to furnish the remainder, when he should have it in his power. The same evening, he was able to fulfil his bargain.

Hard bodies although small, it may be remarked, are capable of producing fatal effects, when accumulated in any particular situation. Binningerus relates the history of a case, where a person had a very hard tumor in the hypogastrium; he continually complained of acute pains throughout the whole abdomen, and was troubled with flatulency and frequent borborigma. He finally died, having taken nothing during three years, but a little fluid nourishment. Upon opening the body after death, the colon was found to be sphacelated, and in the distended intestine was found a collection of prune and cherry stones, weighing about three pounds. Forty balls of lead, which this man had swallowed at different times to relieve his distress, were also discovered in the same intestine. In the Ephemerides there is also the case of a man, who died after suffering from a long continued constipation, occasioned by a collection of cherry stones which he had swallowed; and Vanderwiel relates a more fortunate case, where without any inconvenience a great quantity of the same bodies were retained for six months. To this last we may add another. A lady, a long time troubled with dyspepsia, and having submitted without relief to a variety of professional and popular treatment, at length resorted to gin, for the alleviation of the agonizing pain to which she was subject. The torpid state of her bowels was healthfully excited by this stimulant, and she recovered. From her stools the following curious collection was preserved; from which it will be discovered, that this mass of foreign substances was principally made up of popular remedies, some of them recommended by popular writers, and all, contributing to the aggravation of the original disease, left her but a bare possibility of escape from the most fatal results. In this singular memorial of this lady's sufferings, Dr. Pascalis recognised "several teacupsful f eggshells, in powder; three teaspoonsful of brickdust, of the natural color, which was formerly taken by the advice of a female friend, as a cure for the jaundice; a great quantity of magnesia, in small friable masses; a black powder, evidently precipitated iron, probably from the muriated tincture which she had taken; half a pint of mustard-seed still in their natural state, one third of them having commenced the process of germination; several small white or brown worms, similar to those found in drupaceous fruits; a great quantity of quince seed, which she had taken as an astringent for leucorrhœa; revived globules of quick-silver; many small fragments of bones of ordinary meats and birds; and finally, at least a pint bowlful of fibrous, husky or filamentous vegetable substances, derived from Indian corn, &c."*

Rings, observes the author, and those particularly that are set with stones with sharp or salient angles, or which are chased, may produce troublesome consequences, by wounding or irritating the parts over which they pass. Z. Lusitanus mentions a case of a man, who in badinage swallowed a gold ring, worked in relief, and ornamented with a chiselled head. He was only relieved of a troublesome dysentery, by discharging the body by stool. From the organic structure of the esophagus, not only the irritation from bodies of this kind, but that from pungent or corrosive fluids, may produce confirmed strictures. "In my collection," says C. Bell, "are two examples of strictures of the esophagus, so narrow as to cause death, and in both these cases, the contraction was occasioned by swallowing active and stimulating fluids."† The evils, therefore, resulting from the transmission of foreign bodies through this tube, or from their temporary lodgment in it, do not cease with their withdrawal, or passing into the stomach; and, although the result just spoken of may not occur, still we are to dread subsequent inflammation, sloughing of the parts, gastritis, enteritis, sphacelus of the intestines, and a fatal train of consequences.

In concluding this first class of accidents it will be perceived, that in cases similar to those we have mentioned, although it should be our first endeavor to withdraw the body obstructing the esophagus, as soon as possible, still, if we fail in this, we may without hesitation force it into the stomach, only remembering that we should not lose sight of the case, nor imagine that all danger ceases with relieving the original distress.

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* See, "A case of Dyspepsia," &c. by Joseph M. Smith M. D.—New-York Medical Repository, Vol. VI., No. 2.—January 1820.

† "System of Operative Surgery."—Vol. I. page 140.

SECOND.—Foreign bodies which obstruct the esophagus, and should be withdrawn.—If substances that, as a general rule, may be forced into the stomach with the least danger, sometimes produce such alarming effects as we have just noticed, how much more reason have we to fear the dangers which may ensue from sharp, angular, or uneven bodies, cutting or tearing the parts with which they come in contact; and how attentive to the consequences should we be, in disengaging these bodies from the esophagus and passing them into the stomach? In this class we may number needles and pins, pointed nuts of different fruits, pieces of glass or stones, plates or fragments of iron, steel, or other metals, thorns, ears of grain, large fish bones, irregular or pointed pieces of bone, and other bodies of the same kind.*

M. Mesnier was required to visit a woman who had swallowed a splinter of bone about the breadth of the thumb, and pointed at both ends. This bone stuck in the right side of the pharynx, and caused much pain. M. Mesnier attempted to displace it by means of a ball of lead placed on the end of a large iron wire; he passed this instrument several times in the esophagus, but all his efforts only produced such a displacement of the bone as to alleviate in some measure the pain at first experienced, and the woman only felt a pricking when she swallowed any nourishment. Continued fever, difficulty of respiration, sharp pain along the whole right side of the esophagus, and a rattling (grésillonement) of air in the throat followed, and the patient was evidently in great peril. She was bled three times, and took antiphlogistic remedies. After the violence of the symptoms had somewhat subsided, she threw up pus without coughing, and by degrees she recovered her health, with the exception of being troubled with a little pain in the throat, and the rattling noise in breathing, but she swallowed all sorts of food without difficulty. At the end of ten months, while sneezing and coughing violently, she at last threw up the bone. M. Mesnier saw it soon afterwards; it was rough, smelled badly, and was wet with pus. A detergent gargle perfected the cure. Fabricius Hildanus saw a person subjected to similar danger from a bone which stuck in the fauces; many vain attempts were made in this case also to extricate the bone, or force it into the stomach. From having many sharp angles, it excited acute pain, with inflammation of the throat, accompanied by fever, delirium, convulsions, and very great difficulty in swallowing and breathing. These were followed by an abscess in the fauces, and the bone was discharged, with the pus, on the seventeenth day. The same author mentions the case of a man who was very nearly strangled from a thick and triangular bone he had swallowed, which obstructed the esophagus opposite the first dorsal vertebra. It caused great pain, and its removal was at first unsuccessfully attempted by means of a leek; on the next day, however, it was withdrawn by an instrument which Hildanus invented, of which we will again have occasion to speak. It has been remarked, that bones are very often finally discharged without assistance. This is effected by caries, destroying the points that enter into the flesh, some instances of which will be found in these observations. Fabricius ab Aquapendente relates a case where, after some time, a bone thus arrested was broken into many pieces, and rejected by the violent efforts which the patient made to force it downwards.

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* See "Case in which a nail was swallowed by a child six years old." By J. W. Heustis, M. D. Page 237, No. 1 of this Journal.

These accidents are so common, that the works of authors are filled with examples of the kind. The bones most liable to become engaged in the esophagus, are those of fish; (l'arrêtés de poissons) when they are large they often cause serious effects. In the Memoirs of the Royal Academy of Sciences, there is an interesting instance of the kind, and many other works contain similar histories. We will give two or three, merely to show the different disorders sometimes consequent upon these accidents.

A woman who was eating codfish swallowed a bone, which stuck in the fauces, but without causing much pain; for two days she only felt a slight pricking when she took her food, but on the third day the pain became more acute, it was followed by fever, and difficulty of swallowing even liquid nourishment; many successive blood-lettings were directed without arresting the progress of the symptoms, that were only relieved by a suppuration of the pharynx, by which the bone was extricated; on the seventh day the patient rejected it by the mouth, with a great quantity of pus. Dodone'e observes, that he has frequently seen violent inflammation, and abscesses in the esophagus, occasioned by these bodies, and Platerus gives a case of an infant, who, while eating carp, swallowed a bone, which became fixed in the esophagus, causing much pain, and followed by a tumor that suffocated the patient.

Needles and pins would appear to be less dangerous than fish bones, because they are only sharp at one extremity, and as they are formed of heavier materials, they naturally tend so to turn in the mouth, that when swallowed the heaviest end first enters the tube; when this is the case the parts are but little exposed to be wounded. It even happens, that when they are stopped by their points they produce scarcely any danger, particularly when they are small, or the parts over which they pass are not very sensible, and incapable of opposing much resistance. These little bodies being very sharp and polished, insensibly make a passage for themselves over the whole body, but principally in the cellular tissue, without causing either pain or bad effects. This, however, is not always the fact.

A woman swallowed two pins, which stuck at different places in the esophagus and stomach. Wierus remarks, that the patient had acute pains and colic, until after some time the pins passed with the stools. In the Actes de Berlin we find the history of a case of hematemesis, occasioned by some pins that the person had swallowed. Segerus says, that a young man swallowed three needles, as a proof of his attachment to a young lady. This pointed mark of his affection cost him dearly, for it was followed by frequent syncope, occasionally accompanied with convulsions; and it was only at the end of a year that the needles were rejected, *par en bas*, and he was relieved of the troublesome symptoms occasioned by them. The same author speaks of a man who swallowed two large needles, that caused violent pains in the stomach, until they were discharged with the stools.

Needles and pins are more troublesome when they are very large, often producing very alarming symptoms. Fabricius Hildanus mentions the case of a young girl, who, through carelessness, swallowed a large pin, which passed with the stools on the fourteenth day. This pin remained in the stomach three days without producing any disorder, but from this time until it was rejected, it caused insupportable pain about the region of the pylorus, accompanied with fever, phrensy, and horrible convulsions.

A young lady, aged eight years, swallowed some pins, which she had in her mouth. Some days after, she experienced great pain in different parts of the abdomen. Some of the pins passed with the feces; others, piercing the intestines, came out through the integuments of the belly. The pains were followed by dysentery, violent gripings, syncope, and frequent convulsions. The patient, says Bayle, grew frightfully lean, and died at the end of three weeks. Schenkius relates the history of another fatal example of this kind, where a needle, which had been swallowed, pierced, by degrees, through the membranes of the stomach, penetrated into the substance of the liver, and brought on tabes, of which the man died; and Forestus says, that a girl swallowed a large needle, which stuck in the fauces. Nothing which was used could withdraw it, and the patient fell into a consumption, of which she died in a little time.

We find in the same author a fact which has some connexion with the preceding cases. A village barber, who was examining the fauces of a women with an iron probe, let it fall into the esophagus. He made many trials to regain the instrument, but it passed into the stomach, and occasioned such a wasting, that the woman died in the course of two years.

In concluding our notice of the foregoing, we shall now give some instances of the serious effects which are produced by varirious other foreign bodies, such as pointed stems of fruits, pieces of pipes, glass, and broken sword blades, of wood and knives. An infant, who was playing with some nut-shells, swallowed some pieces of them, and was fatally strangled. Raigerus, who gives this case, relates another of a child, who was alike unfortunate, in swallowing a prune stone; and Schenkius tells us of a man, who alarmingly suffered from swallowing a peach stone.

We find many instances of accidents, occasioned by fragments of pipe-stems, broken in the mouth. A man who was smoking, fell with his face on the ground; his pipe broke, and a piece of the stem pierced the back of the fauces, and produced excessive hemorrhage. The accident was followed by severe inflammation, with the formation of a tumor externally, and just under the ear. Mu s opened the abscess, and discovered the piece of the stem which had caused this serious mischief. Vanderwiel had in his collection a piece of pipe-stalk, about a finger's length in size, which had occasioned the death of a man, who fell, as in the preceding case, while smoking, and forced the stem into the muscles of the neck. On the third day the person died, after suffering much pain and distress from the inflammation and fever that succeeded. We should mention, that all attempts to extract this foreign body were unsuccessful. In noticing these two cases, it ought to be observed, however, that the violence with which these hard substances were forced into the flesh, and the wounds they made, were sufficient causes for the effects produced.

An instance of an accident occurring from a spindle, was communicated to the author by M. Houde. A woman, aged sixty years, was seated on a stool, while separating a spindle full of thread. Holding the instrument in her mouth, she fell with her face upon the ground; the spindle broke, one of the ends entered with violence into the bottom of the fauces, and penetrated the muscles of the neck. The wound bled but slightly, but she immediately experienced severe pain, and much difficulty in breathing. After she was carried to the hospital, M. Honde examined the throat, and discovered a very small wound, which still bled, but he did not perceive the cause of the accident. The patient could not speak, but by signs it was understood from her that the piece of the spindle was still in her throat, and which was soon perceived, by pressing upon the right side of the neck. M. Honde made a longitudinal incision at this point, and extracted the instrument. It was about three inches in length. After the application of some remedies, the woman recovered.

Our readers need scarcely be told of the danger so apt to arise from swallowing irregular fragments of glass. Cardan, Bartholin, Francus, Casalpin, Platerus, and many other authors, have communicated several facts of the kind. These bodies are so injurious, that diamond powder, (vulgarly called *la poudre de succession*,) is reputed one of the most virulent poisons, and the same quality may equally be attributed to glass and crystal, for the sharp and cutting particles of these substances, coming in contact with an intensely sensitive membrane, may very readily produce the most pernicious consequences. It may be observed, however, that only as mechanical irritants can these substances be considered as poisonous.

In the works of Fabricius Hildanus, we read of some King's guards who after a debauch, broke their glasses with their teeth and swallowed the pieces. After a short time they all perished by this mad act. Cardan mentions the case of an idiot, who mixed ground glass with some peas, and that two persons who ate them became dropsical from the effects; the same author observes that many religious fanatics whom he saw, perished from having eaten glass, which produced the most frightful disorders; and T. Lusitanus assures us that a man who swallowed three rough diamonds, (*diamans brutes*,) died of hectic fever, after a very stubborn dysentery.

It may appear superfluous, to illustrate by cases the danger which may follow upon swallowing pieces of sword blades, knives, or other similar instruments, but still it may be useful to make some remarks upon the different accidents occurring therefrom. It will put medical men upon their guard in placing too much confidence in the histories of cures, where similar articles have been swallowed without any subsequent accident, and even if these histories be true, still the facts we are about to select will show the great danger those are subjected to, who may have swallowed any of these instruments.

A maniac swallowed various foreign bodies, as nails, pieces of wood, flints, knife blades, which he broke between his teeth, &c. After some time, he began to be sensible of very acute pains internally, which were followed by spitting of blood, difficulty of breathing, high fever, and a painful tumor in the right groin. At length he died of marasmus, after suffering some time from a diarrhœa. Rothius remarks, that the body was examined after death, and that the largest intestines were found in a state of suppuration, a great collection of pus and a portion of a knife-blade in the right groin, and another piece larger and sharper in the rectum near the anus. Langius reports an instance of a man, who had swallowed an oblong and pointed piece of wood, four knife-blades, and two pieces of iron of an irregular figure sharp and indented, who was tortured with such pains in the hypochondrium, that he desperately committed suicide. The different articles were afterwards found in the stomach. And Walruts says, that in opening the body of a woman to discover the cause of her death, there was found in her stomach, a knife with a blade four inches in length, which had pierced through this viscus about three finger-breadths from the superior orifice.

We will have occasion again to notice many examples of knives, scissors, sword-blades and other similar instruments, that have been swallowed and made their appearance through the integuments of different parts of the abdomen.

Remarks.—On the means employed to withdraw foreign bodies from the esophagus.—It is ordinarily more difficult to withdraw substances from the esophagus than to force them into the stomach, and it is all important to know the different means which surgeons have used, or which may serve to extract these bodies, for often an instrument that may be employed in one case, will not answer in another.

These different means may be divided into four classes; first, the fingers and forceps; second, the different kinds of crotchets, or rings; third, the various ways in which sponge may be used; and fourth, those substances that produce vomiting, coughing, sneezing, &c., by which the body may be extricated and rejected.

When extraneous substances are not engaged too far in the esophagus, so that they are within reach of the fingers, we may thus, or with forceps, most easily withdraw them. M. De la Motte relates several instances where he relieved patients in this manner; we need not detail the cases, as most physicians are familiar with similar examples. The following interesting case, politely furnished us by Dr. David L. Rogers, will aptly illustrate the advantage that might have resulted from this simple means, in preference to the attempt to force the foreign body from its position by instruments. The peculiar form of the article swallowed, and the manner in which it was situated, were well calculated to permit the probang to pass through it without even conveying a knowledge of its presence in any part of the passage, and we can easily conceive that, under all the circumstances, any surgeon would have been liable to a similar mistake to that which occurred in this case. The history is instructive, and will teach us how fatal may be the consequence of neglecting, in all cases, to search the fauces with the finger, or to place the patient in such a light that the upper portion of the throat may be examined by the eye.

I was requested, says Dr. R., on the 9th of February, 1830, to visit the child of Mr. C., aged six months, for a foreign substance in the pharynx. The mother had given it a tailor's thimble (open at both ends) to play with, which had slipped into the throat. When I arrived, three medical gentlemen were in attendance. They had proceeded to examine the throat, and had passed the probang several times into the stomach, and were well assured that the pharynx and esophagus were entirely clear, and it was concluded that the thimble had passed into the stomach. The little patient was much exhausted from the several introductions of the probang; her breathing was natural; fluids, and even bread, passed readily into the stomach, and so great was the appearance of entire relief, that it was not considered necessary that I should make any examination. A few leeches were applied to the neck, and general directions given to prevent inflammation. At the end of a week I was again requested to visit the child. It appeared to be laboring under a high degree of constitutional irritation, which was referred to the inflammation existing about the fauces. She had at all times been able to swallow fluids with ease, and occasionally some solid substances. Leeches were ordered to the neck, with the frequent use of emollient drinks. She died on the eighth day. Six hours after death, in the presence of Doctors Peixotto, Bowron, and others, I proceeded to examine the body. Supposing the thimble to have pased into the stomach, I first proceeded to examine this organ, and, much to our surprise, we found it in a healthy condition, without any marks of the thimble having reached it; by making a division of the chest, we next examined the esophagus, tracing it from the cardiac orifice to the fauces. Inflammation existed through the whole extent, but becoming more intense as we approached the upper part of the tube; here considerable sloughs had formed, produced by the irritation of the thimble, which was found at the upper part of the pharynx, and resting upon the epiglottis. The thimble was so situated as to permit substances to pass readily from the mouth into the stomach, and thus it eluded detection.

If the substance be so situated as to be just out of reach of the fingers, or if the fingers be insufficient to withdraw it, we should then have recourse to the pincers, or curved forceps; the polypus forceps answers every purpose. A person partly swallowed a long piece of bone, sharp at both ends. It stuck in the upper part of the esophagus, and many trials were made to force it into the stomach, but without success. M. De la Borde was called, but, upon examination of the fauces, he was unable to discover the substance, and, therefore, introduced a leek to be assured of its location. Feeling it at the base of the pharynx, he attempted to displace it with the leek, but seeing that it was very strongly engaged in the parts, he then thought it best to withdraw it. For this purpose he passed a forceps down to the bone, and, seizing it, he moved it from side to side, and, after some time, succeeded in extricating it. The patient suffered much during the operation, which was followed by a considerable hemorrhage. Lachmund, by the same instrument, withdrew a piece of an iron bolt which a child had swallowed, as far as the fauces. For three days he had made many useless attempts to draw back this foreign body by different means, and also tried to disengage it by the efforts of vomiting from an emetic. In using the curved forceps he found it difficult to pass the instrument in the throat so as to seize the iron, but at length satisfactorily succeeded.

When we cannot reach the foreign body either with the fingers or forceps, we must then try the crotchet or hook, which answers a convenient purpose when the substance is not too far in the esophagus; though sometimes we may succeed with this instrument, even when the body has descended quite low in the tube. M. Perrotin communicated to the Academy the case of a man who, in taking soup, swallowed a bone which stuck in the esophagus, causing much pain, and preventing the patient from speaking. The man was placed upon a chair, with his head thrown back; M. Perrotin examined the pharynx with his finger, but was unable to feel the bone; he then introduced a curved sound, and passing it down to the body, endeavored to force it into the stomach; but failing in this attempt, he then determined upon withdrawing it; for this purpose he made a kind of crotchet of iron wire, and passing the instrument by the side of the body, he succeeded, by a steady and easy force, to withdraw it from the esophagus. The patient narrowly escaped death, from the size of the bone, which was an entire vertebra of a neck of mutton; for if it had been forced into the stomach, (the possibility of which is extremely doubtful,) still it could have scarcely passed the pylorus, or, under more favorable circumstances, the sphincter of the anus. The same surgeon made similar trials in the case of a woman who had swallowed a large bone of the cod, and which was engaged in the esophagus very strongly by both ends. The resistance of the bone was so great as to straighten the crotchet, which was made of small iron wire, and to oblige him to have a firmer instrument made, with which he finally succeeded. This simple instrument has been approved of by most authors, and many cases are given where patients have been successfully relieved from all danger by its use. Riviere says, that he had made many vain attempts by exciting vomiting, to extricate a piece of bone covered by flesh, which stuck in the esophagus. Another surgeon, however, made a crotchet of wire, which he passed behind the body, and succeeded, with much difficulty, in withdrawing it. There is this remark, however, to be made, that notwithstanding the success so generally following upon the use of this instrument, there is some danger from its sharp and unfinished end, which, without much care, may itself become engaged in the lining membranes of the esophagus, and produce serious evils. Petit communicated to the Academy of Surgery, the occurrence of an accident of the kind which came under his own observation.

A curate, while eating, swallowed a bone, which, being pointed, stuck in the fauces. As there was no person in the place to whom he could apply for relief, his pain and inquietude obliged him to send to a neighboring village for aid. He fell into the hands of a person who had some little acquaintance with surgery, and who undertook to extract the bone by means of a curved hook of iron wire; he forced this instrument into the throat, and in withdrawing it he felt a resistance, which was supposed to arise from the bone, and using a violent effort to extricate it, he withdrew instead of the bone, a large piece of the mucous membrane. The wound caused by the crotchet produced very alarming consequences; the patient was confined to his bed for more than a year, and never, in fact, entirely recovered. The bone, which remained in its first situation, produced a great difficulty in swallowing, but after some weeks, it was displaced, and insensibly fell into the stomach. In communicating this case, Petit remarks, that ordinarily the displacement of bones is produced after some time, (as we have already observed,) by caries or putrefaction, which destroys the points or angles by which they are at first retained.

We can easily avoid subjecting a patient to any accident, by using a crotchet which has its extremity protected by an oval or curved button. An instrument similar to this, will be found first described in the memoirs of the Edinburgh Society, by Stedman. The case in which it was used, was that of a young man, who in eating potage swallowed a large piece of bone. The patient made many strong efforts to force the descent of the bone into the stomach, and he was nearly strangled before he succeeded in swallowing it, to within an inch and a half of the xiphoid cartilage, at which place and toward the left side of the chest, he felt the most acute pain. From the location of the substance, just at the ring of the diaphragm, and the manifest difficulty there would be in forcing it past this strait, he concluded, that the best mode of giving relief, was to withdraw the bone. He therefore had immediately made a flexible rod of steel, bent as a crotchet, and terminated with a round button. With this, but not until after five or six attempts, he finally drew the bone from the esophagus, and after a little local irritation the patient was completely relieved.

Fabricius Hildanus employed a plaited crotchet of wire, and quite large at the end, so that this extremity, whose edge described a line a little curved, formed a sort of scraper. With this instrument, he detached small and sharp bodies, engaged in the walls of the esophagus. He says that a young girl was brought to him, who had a pin sticking in the side of the pharynx, near the root of the tongue, which he in vain attempted to extricate with the nail of his finger, and only succeeded with the blunt hook which we have just noticed. The figure of this crotchet will be found in the works of Hildanus.

Although we have proscribed the employment of the crotchet, or hook with a pointed beak, there are, however, some cases in which it may be used with advantage. This may happen when the substance is large, and firm enough for the hook to be securely engaged in it. Such was the knot of linen noticed in the first class, page 393, and such would be large pieces of membranous and coriaceous meats, &c. ; but the hook should not be too much curved, in order that its point might the more easily enter the substance.

To avoid any inconvenience from the point of the hook, Petit proposed the use of a crotchet, made of a rod of flexible silver, or of two silver wires, turned upon each other in a spiral form, crooked at the extremity, and forming a little loop or ring, with which foreign bodies might the better be disengaged. Vanderwiel relates, from Nuck, an instance of the successful use of an instrument of the same kind. A soldier, while taking some broth, swallowed a large and irregularly shaped bone. He attempted to produce vomiting, by taking a large quantity of oil, but in this he failed, and caused the bone to descend much lower than it was at first. For some time, this displacement put the man in the most imminent danger from suffocation. The surgeon who was called, forgot his instrument, and the patient was obliged to make one himself from a piece of large iron wire, of which he made two branches, and twisted them together, except near the point, which was left open, like a ring, sufficiently large to pass round the bone. He introduced this himself, and after the sixth attempt, he succeeded in encircling the bone, which he withdrew with much pain, and after considerable effort. Petit, for the same object, invented an instrument much more sure, from the number of small rings with which it is furnished, one or the other of which is certain of being entangled with the foreign body. This instrument is made of whalebone, to the extremity of which the rings are securely attached, and in such a manner that they may move freely, and in different ways be presented to the surface of the esophagus.

De la Haye used a very similar instrument in extracting a pin from the fauces of a woman. After employing many means without effect, and embarrassed in the choice of an instrument which would insure him success, he at length fixed upon the following: Through the ring or eye of a long and very flexible silver stylet, he passed many filaments of flax, with which he made many loops, (lacs,) and introducing this past the body, he slowly withdrew the instrument, turning it to the right and left, and ingeniously succeeded in entangling the pin in the flax, and thus relieving the patient. This instrument, we think, may be employed with much advantage in freeing the esophagus from small bodies, such as pins, needles, fish bones, and the like; for the eye of the stylet, thus furnished with a tuft of flax or hemp, occupies but little space, and may with perfect facility be introduced in the esophagus. M. Hevin observes, that some care should be taken in the employment of the stylet, or common eyed-probe, that it does not slip from the fingers. He thinks this caution necessary, and refers again to the case, page 400, and to similar accidents which have happened to several surgeons.

Marechal found a very convenient instrument in his riding whip. A man who had swallowed a large fish bone, was brought to this surgeon just as he was preparing to mount his horse. Having nothing at hand but a whalebone whip, he made a noose (anse) of the lash at the end, and dipping it in oil introduced it in the esophagus. He very happily engaged the bone in the noose, and promptly extracted it.

In the third class of means employed in withdrawing foreign bodies from the esophagus, we have the different modes in which the sponge may be used. This material is most suitable in cases where the body does not occupy much space, for, to succeed, it is necessary that the sponge should pass by the side of the substance, and even beyond it, so that we may drag it forward in withdrawing the instrument; according, therefore, to the volume of the obstructing body should be the indications for the employment of the sponge, and its size when used. Another remark is necessary; the sponge should be firm and dry when introduced, and after it has passed beyond the substance it ought to be left some little time in the esophagus, if the patient can bear it, so that, being swollen by the moisture it may completely fill the calibre of the canal. The advantage of this is apparent.

A very simple method of using the sponge was communicated to the Academy by Brouillard. A countryman, while eating soup, swallowed a large pin, which stuck in the esophagus. The surgeon first called, used the bougie, and other means, to cause it to descend into the stomach. Failing in this, Brouillard was consulted, and judging that a contrary intent should be pursued, tied a piece of sponge in the middle, by a strong waxed thread, one end of which he passed through the canal of a large lead sound, and held the other externally, so that in drawing these threads, the sponge was exactly adjusted to the end of the sound. When the sponge had been dipped in oil, and thus directed below the pin, the sound was withdrawn, and then by drawing upon the threads, he succeeded in entangling the pin, and extracting it. M. Hevin, however, thinks that the whalebone staff is far preferable to the instrument used by Brouillard, as it is more flexible, and possesses several advantages, which cannot be obtained from the sound. The author also objects to dipping the sponge in oil, for if we expect to gain any advantage by its increase of volume, our purpose is counteracted by using a means that will effectually prevent the imbibition of the natural humidity of the parts, or the water which it is recommended the patient should drink.

Some precaution is necessary in the manner of attaching the thread. If too many turns be made, so that the sponge is compacted by the ligature, it does not take up the moisture, and we thus fail in obtaining an important advantage. The best mode is, to pass the thread in several places through the sponge, and thus securely adjust it to the extremity of the rod of whalebone, or other material. M. Hevin thinks, that if the volume of the sponge could be confined, so that after passing it in the esophagus, it could be conveniently freed from pressure, and take its natural size, that an important point would be gained. Something of the kind was used by the surgeons of his day, but it is so complicated, that for ourselves, we would prefer a simple probang; in a treatise of this kind, however, every thing connected with the subject should be noticed. The manner of confining the sponge was, by enveloping it with a piece of fine sheepskin, very soft and dry, the border of which was gathered up by two threads of sufficient length and strength, which being passed once around the end holding the sponge, the instrument was then introduced, and when it had passed the obstructing body, the threads were loosened so as to take off all restraint upon the sponge. Having thus gained its full size when dry, it was increased in volume by obliging the patient to swallow some water, and when sufficiently swollen it was withdrawn, and always, says our author, with success.

In place of the sheepskin, a piece of silk riband was sometimes used, and with a supposed advantage, that, from its texture, small sharp bodies might become engaged in it, and that it would thus materially assist the purpose for which the sponge was employed. But we cannot recommend either of these articles; they are needless, and would perplex the surgeon, who can always find a more useful instrument in the probang.

In using the sponge, we should choose that which is fine and new; when it has been wet several times it becomes hard, and is less effectual in answering our intentions. The manner in which this material was first employed was, simply to attach a strong thread to it, and cause it to be swallowed, but it must have been soon apparent that the difficulty would occur, that the esophagus, obstructed and irritated by a foreign body, would have its organic action so strongly excited, that it would be almost impossible for the patient to swallow a substance intended to occupy the full diameter of the passage. Thus the plan adopted by Brouillard was the one that would most naturally occur to obviate the difficulty; but as there exists no necessity for withdrawing the conductor, but, on the contrary, a very great assistance is obtained from being able to turn and control the sponge while in the esophagus, it soon led to the improvement which is now ordinarily preferred, and which we will notice in the continuation of this analysis in our next number.

Note.—Since the foregoing was prepared, we have met with a very interesting case in the Edinburgh Medical and Surgical Journal, for January, 1831, which we subjoin, as particularly connected with the cases related at page 402.

Case in which a large spoon was swallowed, and produced ulceration of the duodenum, and fatal peritonitis, by Mr. Houston. (*From the Dublin Hospital Reports*, vol. v. p. 319.) The body of a maniac, who died with symptoms of *peritonitis*, in the Richmond Lunatic Asylum, was brought to the College of Surgeons for dissection. The peritonæum exhibited all the marks of violent inflammation, viz. copious effusion of lymph, and seropurulent fluid, with extensive adhesions. A small quantity of the contents of the duodenum was found out of the bowel in the left hypochondrium, and a large rusty iron spoon, eleven inches long, was found lying across the spine, in the cavity of the bowel, with the handle directed foremost and downward, where it had produced ulceration and perforation of the bowel, while the large end was lodged in the *pylorus*, which, though dilated, was neither ulcerated nor broken. The spoon was bent in the centre, where it rested on the vertebræ; but whether it had this form previous to being swallowed, or had acquired it afterwards, it was impossible to ascertain. From the position of the spoon, Mr. Houston infers, that it had not been swallowed accidentally in the transmission of food, but had been forced down the esophagus by the insane patient.

REVIEW.

Art. I.—1. *Lectures on Anatomy, interspersed with practical remarks. Volume I.* By B. B. Cooper, F. R. S., *Surgeon of Guy's Hospital, &c. &c. &c.* London, 8vo. pp. 310. 1830.

2. *The Anatomy, Physiology, and Diseases of the Bones and Joints.* By Samuel D. Gross, M. D. Philadelphia. John Grigg. 8vo. pp. 389. 1830.

It requires little observation to discover the shape science is assuming. It is fast emerging from the obscurity with which theory and false philosophy surround it. The equality which education establishes, and the freedom of inspection which it invites, tends very much to destroy the many deceptive fires which are glaring in its atmosphere. The fetters which ancient prejudice imposed, (the influence of which we feel at this day,) are fast wearing away before the enlightened conviction, that learning is as necessary to the mechanic as to the rich or titled. The repressing effect which the ancient schools exerted, undoubtedly was one of the great causes of the tardy advance of science. Indeed, if we examine into the history of discoveries in the arts and sciences, we shall find that most of these were made without the pale of their jurisdiction. Learning was, and is now in some measure, the property of the rich: so much so, that education is not measured by the capacity, but by future employment; it is considered the extreme of folly to demonstrate any of the laws which govern the motion of the heavenly bodies, to one whose occupation in life may consist of bodily labor. The face of education is rapidly changing from other causes. The impelling powers are found in the wants which a dense population naturally creates; in the struggle for supporting life in better comfort; in the competition which freedom of exertion excites, and the elevation which may be secured to the successful individual. There is less dependence, in the present age, than any previous. We are not controlled by the dicta of any authority; there is more freedom of motion among opinions, and consequently more useful collision. The infallibility of human opinion is now only thought of as forming a part of history shown in the different ages and revolutions of medicine and other sciences. This is in fact an age of inspection and examination. Every one considers himself competent to analyze, and the sceptre which has been wielded for ages, lies broken before the inquiring spirit of the age. It is evident from the condition of our times, that theory will not be permitted which is not supported by fact. The Baconian philosophy never had more vigorous support. No science required its application in a greater degree than medicine, and yet how many floating theories, like dark clouds, have intercepted its true light. We are placed in an age of inquiry, when the same scrutiny will be carried to our profession, as has investigated other departments of knowledge. Yet there is this difference which distinguishes medicine from all other branches of knowledge, that the world considers itself privileged to interfere in its concerns, and such has been its unsettled state, that the interference is now considered an admitted right.

It is also assailed by other weapons, which, if they do not destroy it, will retard its progress. These embarrassments are extrinsic and intrinsic; the first are derived from the false feelings which pervade the community in regard to dissections, and in the defective judgment which measures talents and acquirements. The last are seen in the imperfect manner which the profession is studied; in the unequal distribution of honors; the retaining of situations in public places, which can no longer confer reputation or character, and the repressing effect the conduct of the senior branches has on the junior members of the profession. The catalogue might be increased, but sufficient are admitted to establish the opinion now entertained. The results which flow from these restrictions, oblige young physicians to select other channels to establish fame, than the slow and tardy advancement which such difficulties promise. We find them becoming authors before they are practitioners, and sending forth into the world unfledged opinions, crude and undigested theories, and ill assorted and misapplied facts. There seems to be some truth in the belief, that authors are not practical men, and we think that this opinion has originated in the very source which we have just pointed out. It is very true that there is some apology for the engaged practitioner, yet we cannot say it ought to be admitted or excused, in withholding from the world the accumulated experience of years. Our journals are mostly made by the industry and enterprise of young men. It is very rare to observe contributions from the experienced and distinguished. These reflections are suggested by the inspection of the two works which head this article. Respectable as they are, they want the sanction of authority derived from experience.

Medical writers appear to arrange themselves in three classes: authors, strictly so called, compilers, and annotators. It is very extraordinary that, with the immense mass of new matter which the varied phases of this continent could produce, that so little has been done to elucidate the medical features of our countries. Medical topography, which is so important, appears almost entirely neglected; without it, little satisfactory can be done. Sufficient, however, remains in the different epidemics which have appeared. There is certainly a most culpable supineness, a great indifference to the improvement of our art, in the elder branches of our profession. Stimulated as they should be by the prospective elevation of the medical character, they appear to rest entirely upon the reputation which an extensive practice can secure. It is very true that Rush, Bailey, Bard, and Miller, are honorable exceptions; and their names will be rescued from the perishable fame which awaits so many of our own times. Dr. Hosack has not been idle, and though he lives too much in the storms and revolutions of one of our period, even great industry is accorded to him; and when we can strip ourself of the heat of party, and contending interests, he will be judged more fairly, and, we believe, will stand upon much better ground than he now appears to occupy. The grave appears to subdue bad passions and malevolent feelings, and the clouds which dim character and usefulness, disappear before a vision which becomes more clear, as the object of our examination is beyond our rivalry in reputation and aggrandizements of this world's wealth.

But there is one who still lingers among us, who was the cotemporary of Miller and Smith, in the formation of the Medical Repository. To him is due the credit of forming the taste, and directing the attention to natural history, which now distinguishes the names of De Kay, Cooper, and others of our city. To a memory wonderfully retentive, he adds a love of different sciences as remarkable, and he most assuredly has conferred great honor upon the medical character, by the aids which his varied pursuits have produced. There is scarcely a department of medicine, but more especially botany, mineralogy, and chemistry, which he has not illustrated by his industry, labor, and research. The name of Samuel L. Mitchell will not fade by the absorbing power of time—it will be associated with the early records of the literary history of our country. The effervescence which now agitates the surface of medical literature by a few pretenders will subside soon, and it will reflect in its calmness the light which proceeds, not from the exhalations of a pestilential atmosphere, but the pure and living fires which burn and glow on the altar of true science. He may almost be said to have lived long enough to contemplate the measure of fame which an active and ardent pursuit of science may award him, and view the position which he may occupy in the estimation of posterity.

Dr. Bard was a most honorable example, and worthy of all imitation, when he retired from his profession. He was not content with the fame which a lucrative practice insured, but he devoted himself to effects of an elementary character, which must have been exceedingly irksome to him, for his time of life must have required some study or occupation of a more exciting nature. Yet he laid aside all favorite wishes, whatever they might have been, and wrote a work upon Obstetrics, which is as remarkable for its good sense, as it is for its practical utility. He saw and felt the necessity—he did not, like many others, wait for others to perform what they might in turn consider his duty to execute; but he gave to the world the fruits of an experience most valuable, from the diversified character which it assumed in all the varied relations in life. There are many in our city who have ceased from their medical labors; and why are they sunk into a torpor which appears to anticipate the forgetfulness which the grave prepares for them? They are the patriarchs of the profession, who might be its lawgivers, and still they wander among us as beings who have left their generation, and hover over a destiny which seems to protract its commencement, as if still something was left for them to perform. They are separated from the broils which disfigure, and from the jealousy which destroys the harmony of our calling. Their voice would come among us with authority; it would be heard from the deep and dense clouds which arise up between them; they would be interrogated for those oracles of wisdom, which time had hallowed, and experience consecrated. We should look to them as the pillar of fire to guide us through the devious paths of anxiety, trouble and disappointment, which leads to the portals of a temple where they are now reposing.

The second class of writers are compilers. These are generally found in the industrious young men of the profession, who are obliged to perform this drudgery from impoverished circumstances, or as a channel to rise into notice. Defective as these compilations must be, still we must be content, until better and more skilful hands assume the task. These aids are imperfect, and in unskilful hands become positively injurious; for the care in selection requires higher powers than unpractised hands can give. It is no easy matter to condense so as to avoid obscurity; to present the most prominent characters of the disease, without impairing the utility of the treatise. If the junior members of the profession are compelled to write, they should have facilities from public institutions of correcting false impressions, and improving their knowledge in the most speedy manner. The guardians of all charities should open their doors, and give employment to those who are willing to labor. If our charities are in the hands of those who are engaged in extensive practice, the details at least of treatment will be left to the inexperienced who are placed in these institutions, to receive the rudiments of their education. We cannot too earnestly impress upon the directors of hospitals and dispensaries the importance of this fact. Our public institutions are not founded for the elevation of private reputation and individual aggrandizement, but a distribution of general science to the medical public. Young men should be employed; for although inexperience should be avoided on the one hand, neglect is equally injurious on the other. It is not the mere name that assuages the pain of the sick, though it may tend to deceive the public, and give a factitious value to the usefulness of the charity.

The works of this class of authors should then be received with caution; for they carry no power to their writings which can give force or weight; inasmuch as they have not the corrections of experience, or the confirmation of observation. Their works are the imperfect epitome of particular theories, and not the sound deductions of well regulated or digested analysis. Still they are not without their use, for we should not have the extended acquaintance of the works of Bell, if it were not for the pains-taking labor of his drudge Shaw; and we should have been without many valuable facts accruing from the long and extensive observations of Astley Cooper, if Tyrell had not thrown them into some practical form. The same may be said of the late lamented Dr. Dyckman, who gave a succinct account of the opinions of Dr. Hosack upon the humoral pathology, who revived the doctrine, or rather rescued it from the mass of solidism with which it was concealed. Our shelves groan with works of this kind, and although they may direct public attention for a time to their authors, and kindle some light around their names, they sink and expire in an oblivion which fortunately protects them from a resuscitation as injurious to their own fame, as it is unprofitable to the time of their readers.

Time, which effects every thing, is too slow for aspiring ambition; it often imposes salutary checks upon its effervescence, and sooner or later regulates it in the established order of things. It is impossible to satisfy all, yet while we deprecate too easy admission, we cannot but recommend a generous distribution of honors, where the objects of them cannot be injured, but may be advantageously benefited.

The last class of authors we shall mention, are annotators. We cannot imagine how any man can hope to secure any thing (save the small pittance from his bookseller) by this species of authorship. Yet this appears to be the fashionable literature of our city. In our opinion, this is a most unwarrantable liberty with the author, and we rather suspect that he thinks so, for when he has thought it proper to publish another edition, he has not even noticed the labors, lucubrations, or whatever may be the dignified title which they may appropriate to themselves. If these men consider themselves entitled to correct and improve, why not give to the world a complete treatise? But let us ask, where is the work on anatomy, practice of medicine, obstetrics, chemistry, and materia medica, which this city can boast of? While Philadelphia sends forth yearly some work in each of these departments, New-York can scarcely find a laborer even in the miserable drudgery of annotation. Our sister city boasts of Horner and Godman on Anatomy, Gibson and Dorsey on Surgery, Dewees on Obstetrics and Practice of Medicine, Eberle and Chapman on Materia Medica and Practice; and many others on different branches. She supports three journals, while New-York never could maintain one! Is there no kindling spirit which can rouse the medical community from the torpor into which it has sunk? Is there no vital heat which can invigorate the circulation, and stimulate it to action and useful exertion? We cannot believe that the appeals which must come from every quarter will be unheeded, and that there will not some one spring up to redeem the character of the profession. It has been asserted that commercial communities are unpropitious to literature. We cannot think so, for Boston and Philadelphia appreciate literary labor, and are almost equally involved in commerce with ourselves. There is, we suspect, something peculiar in the meridian of New-York, subjecting it to sudden impulses and strong excitements. Can we forget the strong feeling manifested in the Athenæum, now sunk down into a mere reading room of newspapers and some few periodicals? There certainly is the same necessity now that existed at the period of its foundation, and does the public feel its value or importance, or regret its loss? And the recent inflammation of the public mind in regard to the University—an enthusiasm as contagious as it was in the minds of many, prospectively productive of lasting and substantial benefit to the city, already its success is considered doubtful by some of its warmest supporters in its early projection; and its fate certainly has little uncertainty, if we look to the experiment of its prototype in London. There must be a defective taste, or some radical error in our primary education, which requires correction.

But it is time to turn to the works immediately before us. The work of Mr. Cooper is entitled, "Lectures on Anatomy, with practical remarks." We hail with pleasure this work, in the hope it may lead to others of a similar character. Students often complain of the difficult acquirement of anatomy, and physicians who were once proficients in it, lament that the knowledge of it escapes so easily. The reason is sufficiently evident, that it is learned as a series of insulated facts, and it is taught without association. We would ask what benefit can result from the mere naming of an artery, or pointing out the attachment of a muscle, without referring to the relation of the different systems? Do not students from this cause weary over a demonstration of the brain, because its functions are unexplained, its sympathies in disease neglected, and those lights which comparative anatomy diffuse, utterly disregarded? Where is the utility in giving the simple function of a muscle? Should the combined actions, the different kinds of levers, their relation and displacement, in dislocation and fractures, be omitted? Should they, as the great guides and landmarks in the surgery of the arteries, in the extirpation of tumors, their powers in amputation, be lost sight of? Should the arteries, in their situation to muscle, nerve and vein, their anastimoses, a knowledge of which must govern us in the most important operations upon these vessels, be left to the study of the practitioner? We consider that anatomy is most imperfectly taught, if these practical points be neglected! The French schools have turned their attention to this department of anatomy, and we are happy to find that a work of this stamp has issued from the London press. It is unnecessary to urge upon our readers the importance of this method. The treatise is complete upon general and descriptive anatomy, and physiology of the bones and ligaments; and the practical remarks which are interspersed, are of high authority, embracing every thing of a useful character to be found in the great work of Sir Astley Cooper.

We subjoin two extracts, which will sufficiently explain and set forth the character of the work.

"*The Shoulder.*—There are two bones which constitute the shoulder:—the *scapula*, a flat bone, situated at the posterior and lateral part of the chest; and the *clavicle*, a small cylindrical bone, placed at the upper and anterior part, and extending over the upper part of the first rib. This bone forms the line of separation between the neck and the chest: it is situated between the sternum and the scapula. On tracing it from the former to the latter bone, it is found to take a course from within to without, and from below slightly upwards, its scapular being rather posterior to its sternal end. In shape it somewhat resembles an italic *S*, projecting from the sternum, and forming a concavity in passing backwards to the scapula.

"The clavicle is divided into its *body*, its *sternal* and *scapular extremities*, and its *tubercles*.

"The *body* comprises the middle part of the bone, and presents a superior surface which enlarges as it extends outwards: the sternal half of this surface is rounded and roughened, and gives attachment to the m. sterno-cleido-mastoideus. The inferior surface is similar in its form and direction: it is hollowed in its middle part, to lodge the subclavian muscle; and there is also seen here a foramen, for the passage of the nutritious vessel. The under surface of the body is placed between two projecting portions of bone termed the *tubercles*, which are situated at the precise point where the extremities of the clavicle are connected with the body. The inner tubercle is for the purpose of giving attachment to a ligament connecting this bone with the first rib; and the outer one, for the ligaments which join the clavicle with the coracoid process of the scapula. The anterior edge of the body is large: convex on its sternal half, where it gives attachment to the pectoralis major muscle, and concave on its outer half, to which is affixed the deltoid muscle. The posterior edge, on the contrary, is concave internally, and convex externally, where the m. trapezius is inserted.

"The *sternal extremity* is the thickest part of the bone, and terminates in an articulatory, surface, which is directed slightly forwards. This surface is somewhat triangular in form, being larger above than below, and is concave from behind to before. The circumference of this extremity of the bone is rough, for the attachment of ligaments to strengthen its articulation with the sternum. It should, however, be mentioned, that an intervening cartilage separates the clavicle from the sternum.

"The *scapular extremity* is inclined backwards and upwards, to be connected to the acromion process of the scapula by a small *articular surface*, which has its long axis from before to behind. This extremity presents a *superior* and an *inferior*, *flattened*, *rough surface*, which give attachment to ligaments connecting the clavicle with the scapula.

"The *use* of the clavicles is to afford, through their articulation with the sternum, a fulcrum for the extensive motions of the upper extremities, and also to prevent the scapulæ from approaching each other and falling upon the thorax: they also afford attachment to several muscles, and protection to the subclaviam vessels.

"*Muscles* attached to the clavicles are the m. pectoralis major, deltoides, and subclavius, beneath; and the trapezius, sterno-mastoideus, and sterno-hyoideus, above.

"*Practical Remarks.*—There are many circumstances which render the clavicle liable to fractures, such as its length preponderating so much beyond its thickness; its being so little protected by soft parts; and perhaps most of all, the manner in which it is placed between the scapula and sternum. From the joint influence of these circumstances, a fall upon the point of the shoulder, by driving the clavicle with great force against the sternum, causes the former bone to give way in its middle part.

"In this accident the diagnostic marks are easy of detection, and invariable in their appearance. The external or scapular portion is that which is always displaced, being drawn downwards by the weight of the extremity to which it is attached, and leaving the inner or sternal portion in its natural situation. At first sight it is the inner portion which attracts attention, as it appears to protrude in consequence of the skin being drawn forcibly over its free extremity, by the descent of the outer portion of the bone. The patient loses the power of raising the hand on the injured side to the head; and if he attempt it, he only bends the fore-arm, in consequence of the humerus having lost its fulcrum. The injured upper extremity approximates to the chest, whilst the width of shoulder is lost. Under these circumstances, the surgeon should trace the clavicle along its whole extent, to discover the precise situation and direction of the fracture; and then, by raising and supporting the elbow, the scapula may be brought up to the sternal portion of the fractured bone, and crepitus felt.

"*Treatment.*—Place a large firm pad in the axilla, raise the elbow, so as to elevate the outer portion of the bone to the inner, and keep it in that situation by a short sling. In the next place, wind a long bandage round the chest, including in the folds the whole length of the upper arm of the injured limb; thus, you will keep the elbow close to the side, whilst the pad in the axilla will force the shoulder outwards, and prevent its tendency to fall upon the thorax.

"In comminuted fractures of the clavicle, and in cases where the fracture extends with great obliquity, it may happen that the broken portions shall lacerate the skin, and render the fracture compound. It is also possible for the subclavian vessels to be injured. These circumstances would necessarily render the prognosis much less favorable. In simple cases, the bone usually consolidates in forty or fifty hours."

"*Articulation of the Humerus with the Scapula.*

"CLASS *Diarthrosis.*—SUBDIVISION *Enarthrodia.*—The bones which enter into the composition of the shoulder-joint are the scapula and the humerus; the head of the latter being received into the glenoid cavity of the former, and there retained in its situation by ligaments. This articulation is usually classed as arthrodial; but the depth of the glenoid cavity when furnished with its ligament, the form of the head of the humerus, and the arrangement of all its ligaments, render the joint more similar to a ball and socket than a planiform articulation. On examining the glenoid cavity of the scapula in the recent state, we find it rendered deeper by a fibro-cartilaginous substance, which surrounds its edge, and is attached to the tendon of the long head of the biceps muscle; this is called the *glenoid ligament;* it assists in retaining the head of the humerus in its situation, and also gives extent of surface for the attachment of the synovial membrane.

"Before I enter upon a description of the ligaments, I would direct the attention of the student to the peculiar construction of this joint, which excels all others of the body by its extent and variety of motion. This superiority arises in a considerable degree from the action of the numerous muscles inserted into the scapula, which is thus endowed with a mobility peculiar to itself. It is also owing to the form of the articulatory surfaces of that bone and the os humeri, which are most effectually adapted to the above purposes; the ligaments also are sufficiently loose to allow full play to the bones while under the influence of the muscles; which combined circumstances render this joint so particularly liable to dislocation. Thus we find that anatomy, physiology, and even pathology, all tend to illustrate the different functions of this joint.

"*Capsular ligament.*—This ligament envelopes the joint. It arises from the neck of the scapula, and adheres to the glenoid ligament, over which it passes; then expands itself, to surround the head of the os humeri; and contracts again, as it extends downwards, to be inserted into the neck of the humerus; reaching as far as the tubercles of this bone, where it is inseparably connected with the tendinous insertions of the teres minor, spinati and subscapularis muscles. This capsule, where it extends from the greater to the smaller tubercle of the humerus, leaves a foramen for the passage of the tendon of the long head of the biceps muscle.

The capsular ligament is not of a uniform thickness, being thinnest on its outer and hinder part; but here it is strengthened by the tendons of the teres minor and infra spinatus muscles. On the inner side towards the axilla, where there is no tendinous expansion to give it support, it is found sufficiently strong and unyielding to prevent the displacement of the head of the humerus in that direction by any ordinary force. Besides the support which this ligament receives from the tendons of muscles, it derives additional strength from strong fasciæ, which extend from the acromion and coracoid processes of the scapula: it is especially fortified by a fascia from the anterior part of the triangular or coraco acromial ligament, which is found immediately underneath the belly of the deltoid muscle; and further by the *accessory ligament,* which is situated on the fore and inner side of the articulation, proceeding from the coracoid process of the scapula to the greater tuberosity of the humerus, connecting itself with the tendon of the infra spinatus muscle. We find that the capsular ligament of this joint is more lax than is necessary for the mere junction of the two bones which it connects, in order to allow the free and various motions of which the shoulder-joint (constituted, as its form shows, rather for mobility than strength) is so capable.

"This ligament, then, appears to be of as much service in giving attachment to the synovial membrane, which completely lines it, as in preventing the dislocation of the head of the os humeri. Of the four muscles which are inserted into the capsular ligament, the tendon of the subscapularis is most completely blended with it, so that it is not practicable to separate them without laceration. This tendon seems even to pierce the capsule, in order to gain its insertion into the smaller tubercle of the humerus.

"The *glenoid ligament* is composed of fibro-cartilaginous tissue, and forms a rim around the articulatory surface of the scapula, which it renders deeper. It derives its fibrous texture from the tendon of the long head of the biceps, which is not only attached to the upper edge of the glenoid cavity, but bifurcates and passes down on either side, to form in part the glenoid ligament. Its cartilaginous texture is produced by a continuation of the permanent or articular cartilage of the scapula. This ligament is triangular in form; its base being attached to the circumference of the glenoid cavity, and its apex forms a thin free edge.

"*Synovial membrane.*—This membrane lines the glenoid cavity, passes over the glenoid ligament, to which it is attached upon its internal and external surfaces; extends as far back upon the neck of the scapula as the origin of the capsular ligament, which it completely lines; then passes partly under the tendinous insertions of the spinati muscles, covers the cartilaginous head of the os humeri, prolongs itself into the bicipital groove, forming a *cul de sac*, so as to prevent the escape of synovia, by enveloping the tendon of the biceps; then extends itself, by passing inwards, to give a lining to the insertion of the subscapularis muscle. Thus it retains the characteristic of all synovial membranes, forming a complete cavity without an external opening.

"The *use* of this membrane is to secrete synovia for lubricating the joint; and this secretion being always proportioned to the mobility of the articulation, the quantity in this instance is very considerable.

"*Motions of the Humerus on the Scapula.*

"These motions are not only various in direction, but also very extensive, in consequence of the independent mobility of the scapula.

"The humerus is capable of being *raised* or *depressed*, carried *backwards* or *forwards*, *inwards* or *outwards*; of being *rotated*; and a combination of all these directions, which is termed *circumduction*. Hence it is obvious that numerous muscles serve to perform these different motions, and which, it must be remembered, add much to the strength of the articulation, and prevent, therefore, the frequent occurrence of displacement.

"When the humerus is raised to its fullest extent, the head of the bone slides from the upper to the lower part of the glenoid cavity, and presses against the inferior part of the capsular ligament, while its raised shaft is opposed to the acromion process of the scapula: it is in this position that dislocation is most likely to occur; for if any force should propel the humerus backwards, the head of the bone is driven through the lower part of the capsular ligament.

"In depression of the shoulder, the head of the humerus is drawn from the glenoid cavity, and the capsular ligament and tendon of the biceps muscle are put upon the stretch, which restrain the depression beyond a certain extent, unless the force be sufficient to tear these structures. When the arm is directed behind, the head of the humerus is pressed forward against the capsular ligament, but which is at this part so strengthened by the tendons of the spinati subscapularis muscles, and the deltoid, that the extent of motion, in this direction, is less than when the arm is carried either forwards or upwards, although this movement is much increased by the mobility of the scapula.

"In the forward direction of the arm, the articular surface of the humerus remains in contact with the glenoid cavity of the scapula, unless, at the same time, the arm be directed upwards, when the head of the humerus becomes depressed towards the inferior part of the capsular ligament, as before described.

"In the rotatory motions, the head of the humerus turns upon its own axis in the glenoid cavity, and is directed either from behind to before, or from before backwards, as the rotation may be either inwards or outwards.

"In circumduction, the head of the humerus successively occupies the various situations which have been described as concomitant with the other motions of the articulation; and the whole of the upper extremity, during the evolution, forms a cone, the base of which is at the hand, and the apex at the shoulder-joint.

"*Practical remarks.*—In dislocations of the os humeri, all the muscles which arise from the scapula, and are inserted into that bone, must be more or less affected in its displacement; and it may be luxated in four directions: three, in which the head of the bone is completely thrown from the glenoid cavity, and one, where it rests upon its edge, to the outer side of the coracoid process of the scapula. I shall therefore describe the state of the capsular ligament, and the muscles of the shoulder-joint, under each particular form of displacement.

"*First, downwards and inwards into the axilla*, which is the most common direction of displacement, in consequence of the capsular ligament being thinnest at that point, and therefore more liable to be lacerated. In this accident, all those muscles which arise from the upper part of the scapula, and are inserted into the os humeri, must be more or less put upon the stretch, as the points of attachment of these muscles are rendered more distant from one another, It is clear, therefore, that the two spinati, the subscapularis, the coraco brachialis and the teres minor, must be extended; more particularly the subscapularis, not merely from the separation of its two points of attachment, but also from the pressure of the head of the os humeri, which is frequently so great as to cause the laceration of that muscle. The elbow, in this accident, being removed to a considerable distance from the side, the teres major, with the posterior fibres of the deltoid muscle, are relaxed; while the anterior fibres of the latter muscle are extended. The pectoralis major, and the latissimus dorsi, are but slightly affected; but are still to be kept in view, with regard to the reduction of the bone, as they would otherwise form a very considerable opposing force.

"In this accident, the capsular ligament is torn through on the inner side of the glenoid cavity, near to the insertion of the subscapularis, so as to allow the head of the humerus to pass through it into the axilla.

"The diagnostic marks of this accident are sufficiently obvious, to prevent any mistake as to its nature. The dislocated arm is longer than the other: and if you examine the direction of the upper arm, you find, that instead of the shaft of the bone leading you upwards to the glenoid cavity of the scapula, it is directed deeply into the axilla; the elbow is separated from the side, the roundness of the shoulder is lost, and the acromion projects itself, and immediately under it an empty space may be felt, which is, in fact, the glenoid cavity: the head of the humerus may be found in the axilla, and the patient is unable to bring his hand to his head.

"*Secondly, dislocation forwards under the pectoral muscle.*—The spinati and subscapularis muscles are put upon the stretch, much to the same extent as in the last dislocation; the teretes are somewhat extended, the pectoralis major is relaxed, while the latissimus dorsi is put upon the stretch. The capsular ligament is torn through, as in the last described accident.

"In this accident, the head of the humerus is directed towards the centre of the clavicle, and may be felt behind the pectoral muscle, opposite to the third rib, resting upon the serratus magnus muscle: the elbow is separated from the side, as in the preceding case, but is carried rather further backwards. The patient has the power of moving the arm slightly backwards; but any attempt to bring the arm forward produces considerable pain.

"*Thirdly, dislocation backwards, or upon the dorsum scapulæ.*—In this accident, the subscapularis must be necessarily torn through. The spinati, with the teres major, are relaxed, while the teres minor remains much in its natural state as to its degree of extension, although its direction is somewhat changed. The deltoid and coraco brachialis muscles are relaxed, while the pectoralis major and latissimus dorsi are in a state of extension. The capsular ligament is torn through.

"When the dislocation is backwards and outwards, the head of the bone may be felt immediately below the spine of the scapula;

the elbow is carried from the side, but with a slight direction forwards: the arm is somewhat lengthened.

"*Fourthly, partial dislocation forwards, where the head of the bone rests on the edge of the glenoid cavity.*—Here the subscapularis is found but little altered from its natural state. The spinati muscles are slightly extended. The anterior fibres of the deltoid are relaxed, while its posterior fibres are stretched. The terretes are extended, and the pectoralis major is relaxed, excepting a few of its inferior fibres, while the latissimus dorsi is put upon the stretch. It is not indispensable to the occurrence of this accident that the capsular ligament should be torn through."

These extracts will give an accurate idea of the method in which the different subjects are treated in this work. It cannot fail to recommend itself to the notice of every practical anatomist. While we cannot too highly commend the plan, still we cannot give our unqualified approbation to the execution of the treatise; it appears to us, that it is too discursive, and not sufficiently comprehensive in its details. There are some omissions, such as a want of notice of the pyramids of Wistar, or the cornets of Bertin. If the author had turned his attention for a moment to Cloquet, he would have found the description so much needed in his account of the sphenoid bone. We know that it is contended, that minuteness often absorbs more practical points; this we cannot admit, for there is more danger to be apprehended from looseness of description, than details which may fatigue, if they do not sometimes run the risk of disgusting. The inaccurate anatomist will make a careless, and what the world calls a bold surgeon. We think that anatomy is assuming a new shape in our country; and we will predict that its features will be entirely changed in a short time. Surgical anatomy, which has hardly been noticed, will displace the old method of abstract teaching; and pathological anatomy, which is altogether new here, will take rank in the revolution which is promised in medicine. We know that it is fashionable to decry Broussais, and, while we admit that he has many errors, every candid mind must concede that he has been a great benefactor to our profession. His system must interfere with the ingenious presents which the chemist in his laboratory is preparing for us, or the pharmacien publishing to the world as specifics in numerous diseases. The days of ultrahumoral pathology are past; the alexapharmics are seen now only in the works of Haygarth, Brown, and others; and it requires but a new generation to fix the standard of medicine upon as natural a basis as other sciences. Whenever anatomy holds its true rank in the estimation of medical men, we shall be placed beyond the interference of those who now absolutely decide opinions upon medical matters, with the scanty knowledge provided by popular charlatanerie.

It is impossible to resist the spirit which pervades the community; all classes of society are elevating themselves by the acquirements which are making in every department of knowledge; and these very acquisitions will propel medical men to keep pace with these improvements. We all feel what a difference even ten years has produced in medical education; and have we not reason to hope, now that the work is begun, it will advance? We trust that the time is not far distant, when our Pharmacopeias will decrease in bulk,—that nature will be studied, where axioms can be obtained, which will descend to posterity as truths, to serve for the basis of a science, as dignified as it is useful, and that this basis will be anatomy, which will discard every hypothesis which cannot be tested by the true rules of philosophizing.

We now turn to Dr. Gross's work, which should be in the possession of every member of the profession. Such a book as this was undoubtedly wanted, and to the hurried practitioner it will be exceedingly useful as a reference. The author modestly states his object.

> "To supply these deficiencies, and to furnish the student with a plain, concise, and practical digest of the present state of the science, embracing an account of the most important facts and observations, are the objects of the present undertaking. The work contains little, if any thing, that is either new or unknown; it is strictly elementary; and is designed expressly for the use of students and junior practitioners."

The general anatomy of the bones is first discussed, and the various opinions which have occupied physiologists, examined. We cannot too highly praise the systematic form which he has given to his labors, and the judicious compression which is maintained throughout. The division is first given, and after, the number and sub-division. It is somewhat remarkable, that there should have been various estimates of the number of bones of the body. This, we believe, has arisen from the different periods of life in which they have been examined. According to Sœmmering, Boyer, and Munro, they amount to two hundred and sixty; but Cloquet, whom we consider as equal, differs from this. The general anatomy of bones presents little interesting at the present day; our knowledge is considered complete, and the subject has been so thoroughly searched, that it is now considered established. We shall, therefore, leave this part of the work, and proceed to the practical points, which are more inviting.

Fractures form the first subject of investigation. The definition, seat, direction, causes, symptoms, and prognosis, are all well given; but we cannot give our full assent to the treatment here laid down. The author, speaking of the indication, says:—

> "After the surgeon has ascertained the existence of a fracture, he should immediately endeavor to restore the ends of the fragments to their natural situation, to keep them in this position by appropriate mechanical means, and to prevent or subdue any unpleasant symptoms that may attend or be likely to follow the accident."

If he means by this, that immediate reduction, and placing in position, is necessary in all cases, we must offer our total dissent; for, if he would recollect that callus does not begin to form in several days, little will be required. The indication will be clearly to subdue the inflammation, and attend to the comfort of the patient. Much injury is often done by splints and bandages; if the limb is placed in a position agreeable to the patient, and the ordinary means used for subduing inflammatory action employed, we think so many deformities would not ensue as often occur. The treatment in other respects is judicious, especially in fractures of the upper and lower extremities. The method here employed by Cowper, and Larrey, not usually adopted in this country, is worthy of attention.

> "In fractures of the upper and lower extremities, the treatment formerly recommended by Mr. Cowper, of Leicester, and lately again by Baron Larrey, may sometimes prove useful, more especially if the fracture be transverse, and not complicated with any other injury. Under these circumstances, indeed, I think it possesses a decided advantage over the splints and bandages now in use. It consists in putting the limb in a proper posture, and in encircling it with compresses and bandages, dipped in a solution of glue, gum shellac, or a mixture of the albuminous parts of eggs and a little wheat flour. When this apparatus dries, it forms a firm and inflexible case for the injured limb, and keeps the fragments more completely in contact than almost any other contrivance."

The next article treats of complicated fractures. The usual directions are here given, but we extract one paragraph, which we think worthy of attention.

"In complicated fractures of the leg, it not unfrequently happens that the soft parts about the ankle are so much contused, or otherwise injured, as to render it impossible to employ the usual extending bands. When this is found to be the case, the difficulty may usually be remedied by applying along each side of the leg, as high up as the seat of the fracture will admit, a piece of strong muslin, about two feet and a half in length, two inches and a half in width, and spread at one of its extremities with adhesive plaster. The part which is applied upon the limb should be confined by three or four circular strips, so as to keep it firmly in its place, and equalize the extending power. The free extremities of the extending bands should then be tied under the sole of the foot, and be secured to the block or bar which connects the lower ends of the splints. This mode of making extension, for which we are indebted to the ingenuity of my friend and preceptor, Dr. Swift, of this place, will, I am fully persuaded, be found highly useful in practice, and satisfactorily obviate the inconveniences to which I have just alluded."

The author then adds:

"When the bone is shattered or broken into many pieces, the soft parts enormously lacerated, and almost totally disorganized, it will be impossible to save the limb, and the sooner, therefore, it is removed the better. It is true, that apparently desperate cases are sometimes cured; and that limbs so shattered and wounded as to render amputation the only probable chance of success, are now and then saved. Such cases, however, are extremely rare, and if we take into account the protracted sufferings of the patient, and the probability of his ultimately falling a victim to the disease, the reasons for performing immediate amputation are 'vindicable upon every principle of humanity, or chirurgic knowledge.'"

There is no part of surgery which requires so much caution as that which relates to compound fractures. We are told that much is left to the discretion of the surgeon, yet we are not informed in what that discretion consists; it is very true, that time of life, habit, and constitution, must be consulted; still it does appear to us, that very vague and indefinite rules are given, as to disorganization of particular systems. If, for instance, fracture of the femur takes place at that part where the artery passes through the foramen ovale of the adductor magnus, and the limb becomes cold, immediate amputation is required, for the artery is either lacerated or injured to that extent that the circulation is interrupted; and the patient dies, either from secondary hemorrhage, or irritation of the nervous system. It is certainly to be lamented that no rules have been deduced from the numerous accidents of this nature. We should think, that where the blood vessels are not injured to any great extent, that much might be expected from the curative efforts of nature. It is well known, that surgeons are divided upon this subject; if the limb has suffered much from the wheel of a carriage passing over it, or received great injury from any other cause, so as to render it probable that great sloughing will ensue, a severe examination of the question whether amputation is immediately to be performed, or deferred, is necessary. Military surgeons decide upon immediate amputation, and they may, with some propriety, for the wounded are exposed to many dangers in the different conveyances upon the field of battle, by which the injury would be materially increased. If an injury of this kind occur where every facility can be given to prevent further increase to the wound, or disorganization of the parts, the operation should be deferred at least to the next day, because the constitution has received a very serious shock, and the operation would terminate life, by adding to the shock already received. The impression which any amputation makes upon the system of a man in full health, is very great at all times, and we certainly should not, by our precipitation, add a second blow to that already given. The rage for operating, among young men, is one of the means of introducing them into notice; and to cut off a limb is an achievement of which many boast; but the saving of one, few consider of much importance. This is a subject of a most important character, and if it now divides the opinions of the experienced, it should at least teach circumspection and caution to the juniors of our calling.

Our author has omitted fractures which occur in children; these are very liable to be confounded with sprains, and are often treated as such. The limbs of children may be bent without fracture, for there is little phosphate of lime, in proportion to the soft matter. The consequence is, that the fracture is very difficult to detect, because crepitus is exceedingly indistinct; it is a safe rule to impose rest in either case, and if there be any doubt, splints become necessary, to preserve the bones in apposition, which, in all probability, will be interfered with by the restlessness of the child.

The writer now proceeds to discuss the character of particular fractures. We shall give one extract, which will furnish a fair sample of his method; it is fractures of the clavicle.

"DESCRIPTION OF THE CLAVICLE.

"The clavicle, or collar-bone, is situated at the supero-external part of the chest, between the acromion process of the scapula and the summit of the sternum. It is elongated and irregular, shaped somewhat like an italic *ſ*, and is divided into a body and two extremities.

"The superior surface of the body of the bone is irregular from without inwards, and principally subcutaneous; the inferior surface presents inequalities and depressions for the attachment of muscles and ligaments; its anterior border is thin and concave towards the acromial, broad and convex towards the sternal extremity; the posterior border presents, of course, the inverse arrangement of the preceding.

"The sternal extremity is bent obliquely downwards and forwards, and terminates in a triangular unequal surface, which is incrusted with cartilage, and enters into the formation of the sterno-clavicular articulation. The acromial extremity is oblong, inclined backwards and upwards, and articulates with the acromion process of the scapula.

"*Attachments of muscles.*—The clavicle gives attachment to the deltoid, the trapezius, the sterno-cleido-mastoïdeus, the subclavius, and the pectoralis major.

"FRACTURES OF THE CLAVICLE.

"*Seat and direction.*—The clavicle may be broken either in an oblique or transverse direction, and the accident may occur in any part of the bone, though it most frequently happens near its middle, where its curvature is greatest, and its situation most superficial.

"*Causes.*—Fractures of the clavicle are usually occasioned by a fall upon the point of the shoulder, the elbow, or the palm of the hand; or by violence inflicted directly upon the part.

"*Symptoms.*—The symptoms which characterize this accident are, severe pain at the affected part; an inability to touch the shoulder of the opposite side, or to carry the hand to the head; impossibility of performing circular or rotatory motions; bending of the head and body towards the injured side; hanging of the arm close to the trunk; the depression of the shoulder, and its approximation towards the mesian line of the body; mobility of the two broken ends of the bone; crepitation produced by rubbing them against each other; the patients' supporting the weight of his arm with his other hand; the displacement of the fragments; the inequality felt at the situation of the injury by passing the fingers over the upper surface of the bone; the facility of restoring the ends of the fragments to their natural situation, by carrying the shoulder upwards, backwards, and outwards, and the immediate return of the displacement when the arm is left unsupported.

"*Remark.*—The most remarkable symptom in fractures of the clavicle is the inclination of the head and body, caused by the weight of the arm, towards the affected side. This peculiar attitude, according to Desault aad Bichat, is often of itself sufficient to disclose the nature of the injury.

"The symptoms which have just been enumerated are generally so characteristic, especially in oblique fractures of the clavicle, that it is impossible, even for the most inexperienced practitioner, to mistake the nature of the accident. In transverse fractures, however, the diagnosis is sometimes more difficult, but even here every doubt may soon be dissipated by placing the fingers upon the two extremities of the bone, and ordering an assistant to move the arm.

"*Prognosis.*—Fractures of the clavicle usually assume a mild aspect, being seldom accompanied by any serious accident. The ends of the bone may always be easily restored to their natural relations, but, as it is very difficult to maintain them in this position, the patient seldom recovers without some degree of deformity. This circumstance, which was already noticed by some of the early Greek writers, has been amply confirmed by the experience of modern surgeons.

"*Reduction.*—In reducing a fracture of the clavicle, the patient is to be seated upon a high stool, and a thick, wedge-shaped cushion, about four or five inches broad, and long enough to reach from the axilla to the elbow, is to be placed between the arm and trunk. Its base, which is to be placed upwards, should be about three inches and a half thick, and be fastened to two strings or pieces of tape, passed across the anterior and posterior part of the chest, and on the opposite shoulder. An assistant is then to elevate the arm of the injured side, and while he keeps it extended at a right angle with the body, the surgeon applies the end of a roller, about two inches and a half wide, and eight yards long, upon the middle of the pad, and fixes it by two or three circular turns round the body. The roller then ascends obliquely over the anterior part of the chest to the sound shoulder, passes over the back part of it, under the axilla, appears again on the fore part of the chest, makes a circular turn nearly round the body, ascends obliquely over the sound shoulder to the axilla, appears again on the posterior part of the chest, and finishes by circular turns which completely cover the pad, and fix it firmly to the side of the body. The two turns of the roller on the sound shoulder are to be prevented from slipping by means of a pin.

"The pad being thus properly secured, the surgeon reduces the fracture by carrying the arm downwards, laying it closely along the pad, bending the fore-arm across the chest, and pushing the ends of the fragments into even contact by means of his fingers. Two compresses, dipped in vinegar or camphorated spirits, are next to be placed along the fractured bone, and while the arm is retained in the position just described, the surgeon takes another roller, of the same size as the preceding, and carries its end under the axilla of the sound side. It is then brought obliquely across the chest, over the injured clavicle, and from thence by oblique and circular turns round the body and arm, gradually descending until it passes under the elbow as far as the middle of the fore-arm, care being taken that each turn overlaps the other, and increases in tightness in proportion as the roller approaches nearer to the lower extremity of the humerus.

"*Remark.*—Before applying the second roller, care should always be taken to fill up the vacant spaces between the trunk and the anterior and posterior parts of the arm. This may be readily done with soft compresses or wadding, and will be found to be of essential service in preventing the bandage from becoming deranged."

"The surgeon now taking the third and last roller, and fixing its end under the axilla of the sound side, he carries it across the anterior part of the chest, over the injured shoulder, and from thence downwards along the posterior part of the arm, under the elbow, obliquely across the chest to the axilla from whence it commenced, across the back to the shoulder of the affected side, over the situation of the fracture, along the anterior part of the humerus, below the elbow, and obliquely behind the back to the axilla of the sound side. This plan being twice repeated, the remainder of the roller is to be passed circularly round the body and arm, in order to prevent the first turns of the bandage from becoming displaced. The apparatus is then to be secured by pins, wherever they are likely to be useful; the patient's hand is to be supported in a sling fastened to one of the rollers, and the whole is to be covered with a large muslin or linen cloth.

"*Remark.*—The indications which this apparatus is intended to fulfil, are to keep the shoulder elevated, and drawn backwards from the trunk.

"The apparatus of Desault, which I have just described, has long been extensively employed in this country, and from the fact that it has been found more successful than any other that has yet been used, it deserves a decided preference over every other contrivance of the kind. It may not be improper, however, to give a short description of the apparatus of Professor Boyer, of Paris, and of the one lately recommended by Dr. Brown, of New-York.

"The apparatus of Boyer consists of a quilted girdle, six inches broad, which passes round the trunk on a level with the elbow, and is fastened on by means of three straps, and an equal number of buckles. On the outside of this girdle, at some distance from its extremities, are placed four buckles, two before and two behind the arm. On the lower part of the arm is to be laced a bracelet of quilted cloth, about four or five inches broad. Four straps are to be attached to it, which correspond to the buckles on the outside of the girdle, already described, and are calculated to confine the arm close to the trunk, and prevent it from moving either backwards or forwards. In this, as in the apparatus of Desault, it is necessary to make use of a wedge-shaped cushion, to keep the shoulder upwards, outwards, and backwards.

"The apparatus of Dr. Brown is somewhat similar to that of Desault, and is applied in the following manner. The surgeon taking a single-headed roller, about eleven yards in length and three inches and a half in width, places its end near the axilla of the sound side, and secures it there by several circular turns round the upper part of the chest. A pad, similar to the one already described, is then to be placed under the axilla, and fastened to the opposite shoulder by means of two pieces of tape. The fracture is then to be reduced upon the same principles as in the preceding case, and while an assistant supports the fore-arm, bent to a little less than a right angle, the surgeon brings the roller obliquely down across the breast, nearly over the middle of the fore-arm, under the elbow, and obliquely across the back to the lower part of the scapula of the opposite side, from whence it is to be again carried over the breast and fore-arm, as already stated. Having repeated this plan four or five times, with the precaution of letting each turn overlap about two thirds of the other, and bringing it nearer to the elbow, so as to form a proper support for it, the remainder of the bandage is to be carried round the body and arm, in order to confine the lower extremity of the humerus closely against the trunk. The apparatus is then to be secured by pins or stitches, and the patient's hand is to be supported in a sling.

"Before applying the bandage, a large compress should be placed upon the shoulder and fore-arm, to prevent excoriation.

"The apparatus of Dr. Brown is extremely simple, and can be much easier applied, by the generality of practitioners, than that of Desault; but whether it will be found equally useful, experience, I believe, has not yet determined. I should certainly, however, think it entitled to our confidence, and as such it deserves to be fairly tried.

"*Remark.*—To describe all the various apparatus and contrivances that have been proposed by surgeons for fractures of the clavicle, would not only be fatiguing to myself, but unprofitable to my reader. I shall merely mention, therefore, that the figure-of-eight bandage, formerly so much in vogue in England, the leather strap recommended by Brünninghausen, the iron cross proposed by Heister, and the corselet described by Brasdor, are at present never employed in this country.

"*Treatment after the reduction.*—When the fracture is reduced, the patient is to be treated upon the same principles as in fractures of other bones; but here, as the bandages are particularly liable to become relaxed, it will be necessary frequently to take off the apparatus, and carefully reapply it. In making this remark, I wish it to be particularly understood to mean that the apparatus should be removed only when it is relaxed, or when there is reason to suppose that the ends of the bone have become displaced.

"The fracture will generally unite in about four or five weeks, and the patient may be allowed to walk about during the cure."

The remarks which we make upon this quotation will apply to all descriptions of the different accidents which may occur to the bones.

It is, we think, of great importance to the young practitioner, that he should understand the philosophy of his practice. It is very true, that the treatment recommended by the author is judicious, and is deduced from sound principles; yet we object, that nothing more than simple directions are given. Without association, our knowledge becomes very difficult to retain; and the more we can collect, the better able shall we be to effect practical illustration of its power. It may be said, that the anatomical description is sufficient for all surgical purposes; we know that this is the excuse that surgeons give for their imperfect knowledge of anatomy; and such has been the weakness of part of the profession, that they have rejected the details of anatomy as entirely useless to the surgeon, and actually make a distinction between the surgeon and the anatomist, as if the pursuit of the one was incompatible with the other. We think that knowledge of the bones is not valued sufficiently in this country; as the passive organs of locomotion, they should occupy a higher rank than they now maintain. There is nothing which gives such precision to knowledge as system. The French anatomists are aware of this, and in their descriptive works upon anatomy, they are exceedingly careful and accurate. We will give the method pursued by Cloquet; he gives, first, a general outline of the bone, and then divides it into: 1, body or middle part; this is subdivided into its upper surface, lower surface, anterior and posterior, which are all examined minutely; attachment of muscles, ligaments, &c.; 2, the sternal or anterior extremity; 3, acromial or posterior extremity; 4, structure; and 5, its developement and articulations. It is not sufficient, as Dr. Gross has done, to give the attachment of muscles, but the precise situation should be pointed out; for it is only in this way that we can give any thing like science to our diagnosis in fractures and luxations. This is evident, from the description he gives of the seat and direction of fractures of this bone, and also the causes of these injuries; this is very imperfect; our object is to ascertain why fractures occur at particular parts, and our remedies will be more certain and effective. Let us illustrate; the clavicle is most often fractured at the termination of the points of insertion of the trapezius and deltoid. The reason in the first place is, the bone affords less resistance, and here the two curvatures meet, consequently, when we fall upon the shoulder, the weight of the body and the resistance of the ground cross each other at these two osseous portions. This also explains why fractures are almost always oblique, and why the slope of the internal fragment takes place at the expense of the posterior aspect.

We might carry the same application to other parts of the bone, but sufficient is done to explain our meaning. The advantage which this scientific method would give to surgeons, would be not only in discarding the many useless inventions in the shape of splints and bandages, which lumber the office and occupy the time, but also simplify the treatment. If we look into ancient and modern books of surgery, we shall see the vast difference there is in the construction of instruments, as well as the number in use. It is now well understood that a better knowledge of anatomy has discarded many instruments; in fact, many instruments were invented, because anatomical knowledge was so limited, and now many are in use because surgeons are ignorant of it.

We shall not follow Dr. Gross through the various fractures and dislocations, but content ourselves with pointing out such as are novel and useful. In fractures of the neck of the humerus, the following description of the apparatus of Brünninghausen may be useful.

"A very excellent apparatus for fractures of the neck of the humerus was devised by Brünninghausen, of Germany, about the close of the last or beginning of the present century. It is highly spoken of by some of the continental surgeons, but it has never, I believe, been employed in this country. It is extremely simple, and is applied in the following manner. A pad, about four inches long, and stuffed with hair, is to be placed under the axilla, and secured by means of four tapes, the upper two of which are tied on the opposite shoulder, and the lower two around the middle of the arm. A compress, dipped in spirits of wine and water, is then to be applied to the antero-external part of the scapulo-humeral articulation, and the lower part of the arm is to be pressed towards the trunk. A carved, or hollowed splint, having the exact shape of the limb, and extending from the elbow to the shoulder, is next to be applied along the arm, and secured by means of two straps, which are attached to each of its extremities, and buckled on the opposite side of the trunk. Its internal surface is lined with wool or cotton, which is covered with linen, so as to project about a fourth of an inch beyond the border of the splint, and prevent it from excoriating the soft parts. In addition to the two straps already mentioned, it is furnished with three or four smaller ones, which are buckled round the arm, and keep it firmly in its place. On the external surface of the splint, in the direction of its length, is placed a strip of morocco leather, which is fastened at intervals of one or two inches, and is intended to receive the small straps to which I have just referred.

"When the splint is applied, all that remains to be done is, to put the fore-arm in a sling, and keep it perfectly at rest."

We have thus given, we think, a fair specimen of the first part of this treatise; and we cannot leave it without offering to Dr. Gross our thanks for the industry he has exhibited, and the very useful bibliographical record he has appended to each division of his subject. Our notice of his omissions, we trust he will receive in a spirit of candor. It is impossible that so many extensive subjects can be condensed without some errors, and we say without hesitation, fewer are to be found in this compilation than any we ever met with.

We hope this treatise will be in the hands of every young practitioner; it will stimulate him to imitate the example here held out to him as one path to fame. We are sensible, that from the present construction of the profession, that patience must be exercised; but let him not weary. The repressing causes which now exist cannot remain long; the equilibrium will be restored, and the weight of talent will be felt in every part of the medical community. The public mind will become more enlightened, and the vigor which the energy of the young and spirited will infuse into the circulation of the profession, will rouse the dull and slumbering to a sense of their danger, by the competition of a noble and elevated character. It has ever been the fate of the young practitioner to receive the frown of his senior. It *may* teach him humility, but we fear it may also encourage sycophancy. If we consult the lives of most medical men, how few force themselves to distinction by power of mind; now and then a genius, like a spirit, glides over the waters, but this is a rare appearance. The talented, how often do they sink into the bitterness of neglect, and wither under the shade of presumption and arrogance. If a republic ever should exist, it should be the republic of letters. Despotism in literature dries up every stream of knowledge; and if it do flow sometimes, it is a gift, and not a right which belongs to all, to drink at its fountain head. It is no living spring,—it is the corrupted pool of ignorance, intolerance, and selfish ambition. R.

(To be continued.)

Art. II.—1. *Annual Report of Deaths in the City and County of New-York, for the year* 1830. Published by order of the Common Council.

2. *Statement of Deaths, with the diseases and ages, in the City and Liberties of Philadelphia, from the first of January,* 1830, *to the first of January,* 1831. By order of the Board of Health.

3. *General Abstract of the Bill of Mortality of the city of Boston, from January first,* 1830, *to January first,* 1831. Agreeably to the records, kept at the Health office. By order of the Mayor and Aldermen.

4. *Bill of Mortality for the Town of Salem, from January first to December thirty-first, A. D.* 1830, *inclusive.* By order of the Board of Health.

Nothing more strongly illustrates the utility of the science of medicine, than the variety of subjects comprehended in its general study. Of its immediate and serious responsibilities, no one can rationally doubt; but to these we have no reference at present. There are other subjects, intimately blended with the business of the physician, that elevate him above the drudgery of his profession, and give him an honorable rank among the pure in philanthropy, and the learned in civil policy. The medical administration of hospitals, dispensaries and asylums, offer ample evidence of the first fact, while in illustration of the second, the history of our species, the influence of climate, institutions, religion &c., as embraced in the science of political arithmetic, most usually emanate from the medical philosopher.

The influence of climate, upon the moral and physical development of man, and the political character of nations, was early noticed by Hippocrates,* and to the present day, the science of civil government has established many of its first elements upon facts, demonstrated by medical statistics and topography. That this must necessarily be the case is apparent, as every circumstance, connected with the population of a state, has immediate reference to its civil government. "The *number of inhabitants*," says Malte-Brun, "is the foundation of every good system of finance; the more individuals a country contains, provided they have the means of subsistence, the greater progress will commerce and manufactures make, and consequently, the greater the increase of the revenues." The object of medical statistics, therefore, includes in it the first principles of good government,—it applies directly to the business of every man. The physical effects of the face of the country, the influence of large cities, manufacturing towns, or agricultural districts, and the occupations and resources of the inhabitants, as they affect health or character, have immediate reference to the propagation of the human family, and fall within the daily observation of the physician. It is to our profession, therefore, that the profound statesman must look for much information, in his plans of successful administration; and it is from him in return, that we must receive those legislative enactments, that will put in our possession the means of acquiring satisfactory results from our labors.

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* De Æribus, Aquis et Locis.

It is a misfortune, that from a notorious deficiency in our laws, we are unable to make any *correct* computations of the progressive increase of our city. We have seen, indeed, many loose calculations, based upon the census of different periods, foretelling the growth of New-York for ten, twenty and fifty years. But, independent of the necessity of taking into consideration the alien population, the increase or decrease of which cannot be foreseen, we are unable to make more than a conjectural calculation, from a want of tables of births. The tables of Euler, showing in how many years the population of a country may be doubled, are constructed upon such required data, and this, it would seem, must be the case in all calculations of a similar nature. As the moral and political condition of a people materially affects the number of births, we may reverse the argument, and from such tables, draw an additional conclusion upon the influence of our political constitution. Of this item, in the science of government, we are, therefore, also deprived. We are obliged, however to submit, and with the scanty means afforded us, by our annual reports, form our opinions of the salubrity of the city; we can only judge as we may, of the influence of our climate upon births,—the proportion of births to marriages,—of births to deaths, and the other data required in political arithmetic.

We are sensible, that any law that may be made on the subject of the registry of births and marriages, will be violated from a variety of causes. The reputation of individuals, and the happiness of families, will often demand inviolable secrecy from the accoucheur, and in a community of over four hundred physicians, where competition exists to so great a degree, and where the means of subsistence is sought by many, at the sacrifice of every feeling of personal honor and professional dignity, there always will be found those, who will seize upon the opportunity of reporting fictitious cases, to give a false importance to the extent of their practice. These are circumstances, however, that must be expected, even under the strictest regulations. The reason why the same evils are not met with in foreign countries, arises from the nature of the government, where a state religion, secures a church registry of births. But in proportion as we lose any apparent advantage from the absence of arbitrary laws, it should be replaced, by enactments, consistent with our own more free form of government; and if it be impossible to come at any correct results on the subject in question, still the means of arriving at some satisfactory conclusion may safely be afforded us. The importance of this subject requires more attention than it has yet received, and in proportion to its growing interest in legislation, the necessity of some municipal regulation, becomes more apparent. The rapid increase of our commercial emporium, its ascendancy making it the attracting point for foreign emigration; this influx of a population, that must suffer, before the system can be accommodated to our climate, and the variety of circumstances connected with the character of a large city, give to the topic a peculiar consequence.

From official papers, we learn that during the year 1830, the number of emigrants arrived at this port, is as follows:

Arrived from foreign ports.	January, - - -	504
	February, - -	386
	March, - - -	338
	April, - - -	3129
	May, - - - -	1819
	June, - - - -	5241
	July, - - - -	4200
	August, - - -	4146
	September, - -	3782
	October, - - -	2155
	November, - -	2945
	December, - -	749
		29,394
Deduct citizens of the United States, of whom 1181 were born here.		1,324
		28,070*

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* This amount, it should be mentioned, is not the total of foreigners

By the report of interments, we derive the fact, that 1110 persons were buried in the cemetery of St. Patrick's cathedral during the past year, which is a little over one-fifth of the whole number (5537) of burials in the city. We all know, that the transient foreign population are generally Catholics, and we are led to the conclusion, from these collateral facts, that a large proportion of deaths is of foreigners; we are, besides, plainly shown, that any estimate formed from the amount of deaths, abstracted from every other data, but the total of population, will be most grossly incorrect. The salubrity of our climate cannot, therefore, be tested by these two items alone.

However peculiar it is to man, to readily accommodate himself to a change of climate, still, as it has been truly observed, this very susceptibility produces instability of health, and lessens the average of longevity; in the aggregate, however, population is increased by this foreign influx. But although so great a number of deaths occurs among those from abroad, still there are many circumstances, that must be taken into consideration, in judging of the healthfulness of the city. We must look at the habits, occupations, &c., of the emigrant after he arrives here, contrasted with the same things as affecting him in his native country. The greater number of the lower orders, in less than a month after their arrival, show the effects of intemperance. These effects, are doubly baneful from their action upon systems previously deranged, by the concomitants of long voyages, crowded vessels, confined steerages, salt food, &c. We have seen innumerable cases in a public institution, where some emigrant, within a week after his arrival, has been brought up for medical advice, by an acclimated friend, after he had kindly led him into a continued scene of intoxication. Unfortunately, the first surfeit never brings with it its own cure, but the appetite once whetted, the love of liquor increases, by the facility with which it is obtained. We have before us, the Annual Report of the New-York Dispensary, which gives us an interesting table of the nativity of its patients for the past year. It has an important bearing upon the observations just made, as well as upon the general subject of foreign population. As a single item in statistics, part of the table is worth extracting. The total

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arrived at New-York, during the last year. The sum is very materially enlarged, by numbers smuggled into the city from Amboy, and other places, and by those who arrive here by the way of Canada, of whom no account can be taken. The amount of these, we are told, is very considerable.

amount of patients, who have received medical advice during 1830, is stated to be 14,774, of these there were from :

	At their own houses.	At the Dispensary.	Total.	
Ireland—Female,	774	3018	3792	
Male,	680	2864	3544	
				—7336
N. Y. State—Female,	667	2115	2782	
Male,	543	1742	2285	
				—5067
U. States—Female,	146	505	651	
Male,	348	113	461	
				—1112
England—Female,	120	282	402	
Male,	59	209	268	
				670
Germany—Female,	105	45	150	
Male,	14	43	57	
				207
Holland—Female,	14	2	16	
Male,	2	7	9	
				25
Scotland—Female,	21	34	55	
Male,	9	39	48	
				103
France—Female,	8	8	16	
Male,	6	28	34	
				50
Canada—Female,	24	47	71	
Male,	7	26	33	
				104
W. Indies—Female,	7	5	12	
Male,	2	16	18	
				30
Prussia—Female,	—	2	2	
Male,	—	—	—	2
Sweden—Female,	—	1	1	
Male,	—	10	10	
				11
Switzerland—Female,	—	1	1	
Male,	—	3	3	
				4

Foreign staticians have seen the necessity of assigning some cause for the mortality in large cities, independent of their crowded state and the vitiation of their atmosphere.

"Between 30 and 50," says Mr. Hawkins, as quoted in the American Quarterly Review, "many more die in London, on account of the large annual influx from the country.

In all cities, a large portion of disease and death is to be assigned to the constant importation from the country of individuals who have attained to maturity, but having been previously habituated to frequent exercise in a pure atmosphere, and to a simple, regular diet, are gradually sacrificed to confined air, sedentary habits, or a capricious and over-stimulating food."* The reviewer justly reprobates the cant of "capricious and over-stimulating food," and says that, as a cause of disease, it ought entirely to be discarded in the estimate. We think so too, and have given our views on the same subject in our first Number.† The reviewer does not give the same weight to the argument of the influx from the country, but would rather fix upon consumption as a cause of mortality betweeen the ages of 20 and 50. This may be true to a certain extent, but Lord Kaims, like Mr. Hawkins, makes the same cause a general one in his time.

"But of all, the most deplorable effects of a great city, is the preventing population, by shortening the lives of its inhabitants. *Does a capital swell in proportion to the numbers that are drained from the country?* Far from it. The air of a populous city is infected by multitudes crowded together; and people there seldom make out the usual time of life. With respect to London in particular, the fact is but too well ascertained. The burials in that immense city greatly exceed the births. As London is far from being on the decline, the consumption of so many inhabitants *must be supplied from the country.*"‡

Malte-Brun also observes in his remarks on physical geography, that,

"Aristotle long ago exhorted governments to prevent the accumulation of inhabitants in cities. Sussmilch compares cities to a continually raging pestilence. Such a sweeping assertion exaggerates the effects of an evil, whose existence cannot be denied. The inhabitants of the country enjoy two great advantages over those of towns: a purer air, and a more sober and regular life. On the other hand, rural employments expose those who follow them to so many accidents, and subject them to so many hardships, and to such a miserable mode of living, that it may be doubted whether the real disadvantages in cities are as great as has been supposed."*

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* American Quarterly Review, No. XVI. Art. "Longevity," p. 398.

† Art. "Dyspeptic's Monitor," p. 169.

‡ Sketches of the History of Man. 1774.

After all, these arguments pertain more to large cities in Europe, than to those of the United States; for we have not only the influx from our own country towns, but emigration to a much greater extent from abroad. If, however, the removal of persons from agricultural districts be indeed productive of an increase of mortality in cities, how much more must it add to our bills of deaths, when we have in addition an immense foreign emigration to encounter. We particularly draw attention to this fact, because it is generally overlooked in comparing the salubrity of New-York with that of other cities; it materially tends to increase the average of mortality from year to year, and has enlarged the proportion of deaths to the increase of population for the last ten years. This difference, we think, may be found in the ratio of arrivals of emigrants for the same period.

It were well, too, if this subject should be considered on another point; we mean as it affects annuities; for we believe that the facts, when properly collected, will fix a higher value on life;—that is, the mean duration, instead of being calculated between 30 and 40 years, may be increased to 45 years with us; for if, with our immense floating population, the annual mortality is as 1 in 37.38, it is certainly rational to suppose, that the standard of duration of life may be elevated among those who may be properly called the inhabitants of the city. This we give merely as a suggestion for future calculators. The subjoined table will assist in such computations.

TABLE OF TOTAL DEATHS AND CENSUS FROM 1820 TO 1830, INCLUSIVE.

Year.	*Deaths.*	*Population.*
1820,	3515.	126,000—U. S. Census.
1821,	3542.	
1822,	3231.	
1823,	3444.	
1824,	4341.	
1825,	5018.	166,000—State Census.
1826,	4973.	
1827,	5161.	
1828,	5181.	
1829,	5094.	
1830,	5537.	207,000—U. S. Census.

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* Universal Geography, Book XXII. p. 195. 4to. edition.

The increase of population intermediate to a series of five years, can only be arrived at by an average calculation. Taking the amounts given in the three terms, this may be safely calculated, from the regularity of the increase which it will be noticed, is about 8,000 per year. For any purpose of accurate anticipative calculation, this will not be sufficient, particularly when taken in connexion with the number of deaths, which must vary with the increase or decrease of arrivals of emigrants. To come at any thing like accuracy, we want some basis besides the bills of mortality, swelled out, as we have observed, by deaths produced among aliens, and by circumstances independent of impure atmosphere and vicissitudes of weather. We want, as important items, the proportion of births to marriages, and, above all, the proportion between births and deaths. This last is generally calculated from 101 to 150 for every 100. Taking a ratio of 145, we may make something of a calculation which will give us about 8,028 births per annum; the deaths being to the births as 10 to 14, will leave a surplus of 2,491, and requiring 5,509 natives of different parts of our own and foreign countries, to make up the net amount of annual increase, (8,000.) The period it will take from these data to double the present number of inhabitants, may be computed from given tables of a population of 100,000, the mortality being as 1 in 36, and the proportion of deaths to births, as 10 to 14. In this case, the number of inhabitants will double itself in 62¾ years. With us the population being 207,000, and taking the mortality as above, (1 in 36—1 in 37, however, being the true proportion,) will give a double population in about 30 years. This, however, must be a loose calculation, but we believe it is a safe conjecture.

In our attempt to show that our bills of mortality cannot be solely depended upon, in forming an opinion of the healthfulness of our city;—that other things indeed than the locality, deterioration of atmosphere, and general circumstances of the climate of New-York, affect the yearly amount of those bills, and in order to show that the clamor that is raised about the insalubrity of our city is perfectly idle, we will just notice the statement of deaths in Boston, Salem, and particularly in Philadelphia. These are the only places that have supplied us with the reports of deaths for the last year. We are not informed of the numbers of foreigners imported into these cities, but in Philadelphia alone, can there be any thing like a comparison made with the numbers arrived here—even in this respect she must fall something behind us.

By the census lately taken by the general government, Philadelphia, with its five liberties, has 161,412 inhabitants; and by the "Statement" of the Board of Health, we are told, the number of deaths for 1830 amounts to 4,250, or 1 in a fraction less than 38. From this it is perceived, that even were circumstances equal, its salubrity would be but triflingly elevated above New-York; but the difference in transient population, we think, will fully account for the difference in the proportion of deaths.

In the "Statement" we have the item of births, the deficiency of which in our own "Report" we so much complain of. Agreeably to the returns made by 160 practitioners of midwifery, there were born 3,996 males, and 3,682 females, making a total of 7,628, and leaving a surplus of 3,378 births, which is as 1 to 47 of the whole population. Adopting the same proportion of births to deaths for our own city, instead of the hypothetical terms we have previously made use of, the sum of 4,401 would displace 2,491, and give us a proportion also of 1 in 47; so that here we would lose nothing by comparison.

The deaths in Boston during the last year were 1,125. We can make no estimate of the proportion of mortality, being unable to decide whether the deaths in Charlestown are included; and besides, we have no other term of population than that of the two places conjoined, which, in the abstract of the late census before us, is given as 70,164.

In the "Bill of Mortality" of Salem, we have a total of 230 deaths. The population of the town is 13,861; and there have been during the last year 491 births, viz., 253 males, 230 females, and 8 still-born.

Now let us return to the "Statement," and take a few of the diseases that depend most upon climate and situation, and we think that the comparison here will also show our city in as fair a light as her neighbor.

Fevers.			Inflammations.			Diseases of the bowels, &c.		
	Phil.	N.Y.		Phil.	N.Y.		Phil.	N. Y.
Simple,	71	36	Of the chest,	228	222	Diarrhœa,	76	83
Typhus,	51	53	Abdominal viscera	129	192	Dysentery,	49	128
Bilious,	36	35				Cholera,	236	10
Intermitt'g.,	9	15	Brain,	83	71	Colic,	18	10
Remitting,	45	32	Liver,	25	107			
Puerperal,	15	14	Stomach,	51	3		379	231
Hectic,	5	2	Catarrh,	30	5			
Inflammatory	4	5	Hives,	71	178	Marasmus,	0	263
			Sore throat,	17	32	Debility,	315	0
			Bronchitis,	46	0			
	236	192						
				680	810			

Among the fevers we have omitted scarlatina, which can no more be called *fever* than measles or small pox, and because it must be considered an epidemic, not belonging to any particular climate. In Philadelphia there were 40 deaths from this disease during the past year; in New-York there were 246, while in 1828 there were 11, and the previous year only 4.

There must be some difference in the nosology of the two cities; for we cannot believe that inflammation of the liver is a disease peculiar to New-York. There is a stronger disposition generally for diseases to assume an inflammatory character in the United States than in Europe; and if this peculiarity pertain more to New-York than to other cities in the Union, it is probably depending upon our exposure to the sea. Although the number of deaths by inflammations is so great, still the amount is less in proportion to the whole number of deaths than in Philadelphia. Cases of bronchitis find no place in our report, except they are included among hives, which we think must be the fact.

The disproportioned number of deaths by cholera, at first led us to believe, that we ought to have added, as an offset, 263 cases of marasmus, which we find in our report, without a like class in the statement. This we would have done, had we not found the official returns from Philadelphia, in the same situation, with 315 deaths from debility, which have no place in our report. We are inclined to think, that these two terms are used for the same complaint, from the fatality being placed chiefly among children. Setting aside the difference of population, in the number of deaths by diseases of the bowels, the advantage is decidedly in favor of New-York, so far as the fact can be judged from a single year. This conclusion will arise more forcibly, in respect to fevers, though in this, the same opinion would be naturally formed, from bearing in mind the clay soil, and general topography of Philadelphia.*

The increase of mortality by consumption in cities situated in the latitudes of New-York and Philadelphia is always great, and this seems evidently to be in proportion to the vicinity of the ocean. Without stopping to inquire, whether this disease be inflammatory or not, or whether the stimulus of the pure sea air can be advantageous or otherwise, we may only say, that, setting its pathology and all a priori reasoning aside, it is generally conceded by physicians, that in the early stage of consumption, a sea voyage is decidedly beneficial. But, there can be no doubt, we believe, that the mixture of land and sea air is as highly prejudicial. It is this mingling, and alternation of atmosphere, the one charged with pure and stimulant, and the other with noxious and depressing materials, and the concurrent vicissitudes of temperature in our climate, that must ever be productive of serious consequences, in certain predispositions. To these natural concomitants of our locality, add the causes of disease arising from the habits, occupations and refinements of a large city, and no wonder can be excited at the prevalence of consumption. It is, however, to be regretted, that no hopes can be raised, that this prevalence will be lessened, but on the contrary, that in proportion as luxury and wealth increase, so will this prevalence increase. New-York, however, is favored in its comparative freedom from remitting and intermitting fevers; and although there have been many cases of the latter, within a few years, still, they can almost universally be traced to the country for their origin. This fact of our great immunity from fevers, and the greater predominance of consumption, is singularly consistent with another fact, that the latter is seldom met with, originating in miasmatic regions, where the former abound. The same observation will be made, by comparing the bills of mortality of the two cities; while among our neighbors, the deaths by fevers are greater than with us, those by consumption are less, being 636;—in New-York, they were 974 for the same period. The following table, collected from the official reports for ten years, will show the proportionate increase, when compared with the growth of the population, and the total of deaths which we have already given.

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* Linneus. Amœnitates Academicæ, Vol. X.

Deaths by Consumption.

1821	715.	1826	820.
1822	624.	1827	829.
1823	683.	1828	906.
1824	736.	1829	880.
1825	843.	1830	974.

Taking the sum of deaths, (8010,) by this disease, for the foregoing term of years, it proves the chilling truth, that it will form nearly *one sixth* of the whole amount of mortality, (45,542,) for the same period. What terrible ravages of a single disease, and yet how recklessly do all the attendants of misnamed refinement and fashion second the effects of climate and predisposition, and demand its daily victims!

Great, however, as this proportion is in New-York, it must not be supposed that *we* are exclusively subjected to the desolating visits of consumption. As far as an opinion can be formed from the number of deaths in one year, Philadelphia, Boston, and Salem, offer equal evidence of its ravages. While the deaths in our city were 974, which is about *one fifth* and $\frac{68}{100}$ of the whole number of deaths for the last year, in Philadelphia they were 636, or *one sixth* and $\frac{68}{100}$; in Boston 193, or *one fifth* and $\frac{84}{100}$; and in Salem 50, or *one fifth* and $_{100}$. To come, however, at any accuracy, we ought to make our calculations from a series of years; but yet the trifling difference in latitude bring these places, even for one year, more upon equivalent terms of comparison than at first would be suspected. The occasional vicissitudes of weather may not be equally felt, but the general atmospherical changes, we are of opinion, are alike experienced.

This item in medical statistics is an object of melancholy reflection, but still with proper data, (and did time permit,) we would like to pursue our investigations much farther than we have done at present. We would endeavor to press the subject upon the attention of the philanthropist, that some means might be devised, if possible, for the *prevention* of this disease; for here the hopelessness of any *curative* effects from medicine, evinces the occasional inefficiency of the healing art. "To cure it," (phthisis,) says Dr. Clark, "even in its earlier stages, in other words to remove tubercles already existing in the lungs, is what we can scarcely hope to do." Laennec indeed has remarked that "the cure of consumption is not beyond the powers of nature;—but art has not been found equal to the task."* The prevention indeed would seem to be an equally hopeless labor. While fashion and luxurious indulgence hold their sway, we shall be met at the very threshold by almost insurmountable obstacles. We will find arrayed against the most disinterested benevolence a force, that even the fear of death cannot prevail against. Pride, folly, intemperance, and a host of excesses, will start up in opposition to every counsel of prudence or warning of experience;—disease will continue its desolating march, and death eventually receive the voluntary sacrifice of proud, intellectual, but infatuated beings, in spite of every opposing effort. No one can so justly appreciate these melancholy truths as the observant physician, but how vain are even his warmest attempts to counteract their force.

In the earlier attacks of phthisis, much may be done by seeking relief from a sea voyage, and the genial influence of a tropical climate. The equability of temperature in both possesses the greatest advantages. But it is to inaction on ship-board, and the lassitude of mind and body produced by a tropical atmosphere, that we are inclined to attribute the great benefit so often experienced in these cases. If phthisis be an inflammatory complaint, (which, we know, has been doubted by some,)* then all absence of excitement must be desirable, and every means calculated to stimulate the mind or body should as necessarily be avoided. These effects we meet with in a very great degree in the means referred to, for notwithstanding the possibility of a continued excitement of mind at sea, we know that ordinarily all curiosity soon wears away, and the whole scene is productive of languor, and becomes devoid of interest; every trifle is an event, and every taste or passion is subdued by an oppressive ennui. These effects are more visible as the tropics are approached, and hence the patient soon feels convinced of an improvement in his symptoms, though often mistaking the absence of mental excitability for a loss of irritation from disease. But in the forming stages of the disease, there is an absolute curative effect produced, which is increased by a residence on some plantation, where every circumstance we have mentioned is found in succession, even to a greater extent than on ship-board. The habits and occupations of the inhabitants, the scene, and every thing that surrounds him, very soon become familiar; and the equable, though oppressive temperature, quickly enervate, and indispose him for any exercise. The mind is soothed by the influence of the air, and all these combined circumstances, added to the simplicity of diet to which he is reduced, prove every way effective of recovery to health, or at least, in retarding the progress of disease. Rest of body and mind is of paramount importance, and it is to be desired particularly, if it can be had by a natural inclination produced by temperature, rather than by mere deprivation of occupation. Denying nothing of the benefit derived from a change to a milder climate, we yet think it essential that the circumstances to which we have adverted, should enter into our deliberations when advising the removal of a patient, and where a change of residence is impossible, that the same object should be had in view in accommodating him to our own climate.

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* London Medico Chirurgical Review, Vol. XII., N. S., p. 91.

Returning from this digression, the next object that attracts our attention is the great number of still-births. The prevalence of these cases has not failed to excite particular observation, and we are in hopes that the subject will soon be satisfactorily investigated, as we perceive it forms one of the prize questions of the State Medical Society.

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* See Dr. Parrish on Consumption, N. A. Medical and Surgical Journal, No. XVI.; Clark on Climate, and other modern writers.

In a paper on the increase of still-born children, read before the County Medical Society in 1829, we expressed our regret that from the want of a proper registry of births, we were unable to make any comparison between the proportion of still and living births. From such data, however, foreign staticians have made the required computations, some of which we found in our Edinburgh contemporary,* and which we may again be permitted to quote.

Caspar, in his remarks on the mortality of children, has calculated the proportions referred to for different cities in Europe. In London and Vienna, they are in relation as one to twenty-four; in Stockholm, as one to thirty-six; in Dresden, as one to nineteen; in Brunswick, as one to thirty-three; as one to fifteen in Hamburgh; one to nineteen in Paris; and as one to eleven in Strasburgh. It is considered as perfectly demonstrated, that in the above places, the chief causes of still-births are illegitimate connexions. Taking the conjectural term (8,028) which we have before made use of, as the number of living births per annum, we find that in New-York the proportion will be as 1 in 23. If the sum of 7,628 only includes the living births in Philadelphia, the proportion in that city is as one in twenty-five; for Boston we have not the item of births; but in Salem the proportion is as one in sixty. In Boston the number of still-born children was 100 during the last year.

For the assistance of those who may wish to enter into the calculations more deeply than we have done, we will give the number of these cases, as well as those of deaths in child-bed, for a series of ten years, taken from official reports before us.

Year.	*Still-born.*	*Child-bed.*
1821,	174.	19.
1822,	205.	19.
1823,	223.	18.
1824,	250.	44.
1825,	244.	30.
1826,	302.	53.
1827,	290.	43.
1828,	338.	35.
1829,	360.	26.
1830,	339.	45.

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* Edinburgh Medical and Surgical Journal, No. 88.

In looking over this table, we are at once struck with the increase of cases, which is much disproportioned to the increase of population, and we are naturally led to inquire into the causes of these accidents. We know that every circumstance capable of enervating, or in any way deranging the *female* system, will in some way affect the ability of perfect conception. This is particularly the case, when such derangement is directly seated in the uterine system. In searching, therefore, for these causes, we are at once directed to the effects immediately or indirectly produced by the different conditions of society, and which may all be referred to a few moral and physical causes, more especially met with in large cities. This is chiefly dependant upon the fact, that here the habits, tastes, &c. are in some measure artificial, or, in other words, that the simple purposes of life are perverted from their healthful exercise by refinement, neglect, or excess. From the highest to the lowest class, these circumstances abound, but with some peculiarity, consequent upon the condition in life.

First: among the poorer class the difficulty of obtaining a regular subsistence, materially affects the number of births. This arises from the impoverished condition of the whole animal organism, as well as from the want of those necessary attentions during pregnancy which can be observed among the more favored. The muscular fibre is lax, and the periodical evacuations are irregular in their appearance, or the whole secretion is depraved. These derangements are heightened by the dampness, and often filthiness of the dwellings, and by personal uncleanliness. With indolence and uncertain subsistence, intemperance is generally connected, to a disgusting extent, and the result of all is, that the powers of conception are either wholly exhausted, or there is an incapability of sustaining the burden of a regular period of gestation. These are the physical causes of still-births among this class of the population of a city; the moral are those which seem to be the attendants of poverty, and corrupt mental education. The sense of propriety is lost from these wants, and illicit practices are indulged in. The whole moral feeling being depraved, the rights of wedlock are unacknowledged, or reckoned lightly of; in one word, prostitution is resorted to, as a means of subsistence. The effect of this is seen in the fact, that fifteen per cent. of children born out of wedlock are born dead,—but only three per cent. of those in wedlock.*

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* Caspar.

Poverty, intemperance, and prostitution, then, we may first place among the ordinary causes of still-births, and these causes must increase in proportion to the increase of population, and from the civil and moral nature of a city.

Secondly: as "an active, sober people, equally moderate in their passions and pleasures, will always be superior in fecundity to a people debauched by luxury, effeminacy, and voluptuous enjoyment;*" or to those sunk in the lowest vices of poverty and ignorance; the class of society emphatically called the "respectable" will offer but few causes dependant upon their condition, for still-births. Equally removed from the luxury and listless inactivity of fashionable life, and the unwholesome diet and low propensities of the class we have just noticed, the causes among these must be chiefly physical, and dependant more upon accidental exertion, imprudence, or occasional sedentary occupations, than upon a customary mode of living. These circumstances, however, become connected with others, in proportion to the acquisition of wealth, and the gratification of an ambition for the refined convenience of the higher class of society. Thus it is that we often see children of the same family exhibiting different and increased predispositions for disease, as they are born during the competency or the superfluous wealth and enjoyments in possession of parents. The necessity for muscular activity, and continued domestic occupations; the full gratification of the simple wants of nature, the regularity of life, and generally strict moral discipline,—secure a firmness of fibre, and perfection of mental and physical qualities, that render the peculiar duties of the female not only to be completely but easily consummated. But displace this manner of life by indulgence, irregularity, the refined ease, and enjoyments, and indiscretions of fashion, and we find just such a state of functional debility and derangement, as generally interferes either directly or indirectly with the propagation of the human race.

This brings us, thirdly, to the consideration of luxury as a cause of the increase of still-births. This state of life, in the first place, may be reckoned as a very efficient cause, from its disposition to produce those unhealthy and inconvenient discharges, and that irregularity of menstruation, which is so effective in destroying the perfection of the generative functions of the female. In the paper before referred to, we have noticed this circumstance, and as we cannot better express our views, we will repeat what we have there said. "At that period when the play of the passions is the strongest, the sanguineous determinations of earlier life being diverted from the cerebral and pulmonary systems, now exert that influence, which, after the commencement of the catamenia, not only prepares the generative organs for the performance of functions contributory to the continuance of the human race, but renders those organs extremely susceptible of excitement. To a certain degree, the occurrence of this excitement is not only not incompatible with, but necessary to health; but when too frequently produced,—and that, too, by circumstances which may be avoided,—it then becomes a subject of much future constitutional mischief. To the production of this effect, fashion lends her powerful aid, whether it be physically or mentally, by heating drinks, stimulating condiments, or luxurious and indolent living in general, or indirectly by an improper personal display, and that nice attention to those striking characteristics of the female form, which betray the subject of honest though somewhat indelicate thought, or, by devotion to the fashionable works of fiction, which minister to the luxuries of an impassioned imagination; for all these are equally causes of those increased excitements, which are so productive of the disorders here spoken of. Constant irritation or excitement of any organ must result in an equally general and morbidly excessive impetus of blood to the part; hence arise the passive inflammation and occasional lesion; hence are induced all those morbid actions, which, under the name of leucorrhea, amenorrhea, &c., not only prove essentially injurious to the generative function of the uterus, but finally, we believe, may produce a force of habit capable of completely perverting its necessary and curiously devised intention." We think so, for as these discharges are liable to affect the generative system from the age of puberty to the period when the capability of conception usually ceases, it must be obvious that although they are the effects most generally of constitutional debility, they also, by reaction, increase that debility, and, by the locality of the disease, particularly impair the tone of the vagina, the neck and even body of the uterus. But, although this loss of tone does not necessarily prevent conception, as that faculty depends especially upon the healthy condition of one or both ovaria, still it is evident that such a state of the uterus must very effectually prevent the full development of the fœtus, or, if the fœtal term shall have been nearly completed, of its expulsion in a lifeless or asphyxiated condition.

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* Malte-Brun.

It is to be lamented, that these disorders, so detrimental to the well being of women, so well calculated to destroy the fulfilment of the duties of wife and mother, should in a great measure be induced by habits and education, often considered as the *purposes* of civilization and polished life.

This subject might be enlarged upon, but our space will not allow us to do more than to pass rapidly in review those moral and physical causes incidental to the several conditions of society in a large city; and it must be apparent, we think, that these are sufficient for the annual increase of cases of still-born children. Indeed, when we compare the proportion of cases which we find in the Salem bills with those in the New-York report, we have the evidence of facts to bear out the general assertion, that the natural increase of population of any place is materially affected in proportion to the extremes of corruption and refinement; and that these circumstances proportionately depending upon the number of inhabitants, affect not only the procreative powers of the female, but also the health and life of children. No hesitation can be indulged on these points; for when we look at the enervating effects of intemperance, poverty, and low vices,—of mental and bodily indolence, luxurious living, and, we ought before to have added, the mechanical but fashionable means of distorting the body, and injuriously compressing the uterine region, we find sufficient means for the production of still-births, or enfeebled children. That some opinion may be formed of this last fact, we have prepared the following table of deaths and ages for a period of ten years.

Before quitting this part of our subject, we will suggest another cause of the increase of still-born children, and one which did not escape the observation of that venerable and experienced physician, the late Dr. William Moore.* We fear that there is too much truth in his conjecture, that the too free and improper use of *ergot* by physicians is productive of a proportion of the accidents referred to. We are inclined to this belief, the more strongly, from some facts that we have heard of, where it has been boasted that by this means several cases may be attended to with but a little loss of time. How far the application of this medicine for vicious purposes, may have become common out of the profession we do not know, but we entertain many suspicions on this point.

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* Am. ed. of Denman, by J. W. Francis, M. D.

AGES.	1821	1822	1823	1824	1825	1826	1827	1828	1829	1830	TOTAL.
Of 1 year and under,	825	793	879	1072	1109	1232	1336	1427	1390	1547	11610
Between 1 and 2	369	264	315	397	386	476	546	460	496	575	4284
" 2 " 5	261	219	230	389	300	350	389	339	465	517	3459
" 5 " 10	122	111	117	164	137	180	185	149	214	207	1586
" 10 " 20	158	150	153	190	181	253	192	193	198	235	1893
" 20 " 30	445	427	453	559	653	618	682	685	604	676	5802
" 30 " 40	446	421	411	544	758	628	657	729	606	672	5872
" 40 " 50	346	333	345	425	641	483	501	496	438	427	4435
" 50 " 60	243	203	232	258	357	330	285	302	278	289	2777
" 60 " 70	175	156	135	159	226	202	221	214	204	206	1898
" 70 " 80	79	98	109	115	161	132	124	115	124	129	1186
" 80 " 90	57	54	49	56	88	71	50	57	57	44	583
" 90 " 100	15	10	14	11	14	15	12	13	18	9	131
100 and upwards	1	2	2	2	7	3	1	2	2	4	26
	3542	3231	3444	4341	5018	4978	5181	5181	5094	5537	45542

PROPORTION OF SEXES.

YEAR,	1821	1822	1823	1824	1825	1826	1827	1828	1829	1830	TOTAL.
Men, ...	974	997	1007	1244	1721	1473	1536	1574	1333	1390	13249
Women, ...	835	695	734	887	1180	1003	991	1045	1011	1066	9447
Boys, ...	892	836	955	1204	1156	1334	1457	1447	1584	1640	12505
Girls, ...	841	703	748	1006	961	1163	1197	1115	1166	1441	10341

For ten years, therefore, the number of deaths under one year, is nearly one fourth of the whole number of all ages; from birth to two years, nearly one-third; in Philadelphia for a term of 20 years, ending January, 1827, the proportion of children under a year to the whole number, is rather more than a fifth; and of those from birth to two years, rather less than a third.*

This enormous mortality of children, is owing in a great measure to the unfriendly influence of the air in cities; but we are inclined to believe, that much depends upon the inherent feebleness of the offspring, born of inactive and debilitated mothers, and nursed either with impoverished milk, or when this natural sustenance is deficient, fed upon diet totally at variance with the assimilating powers of the infant.

"The proportion between the numbers of the two sexes, is a matter of great importance, both in statistics and legislation. In Europe, there are always more boys born than girls, in the proportion of 21 to 20, or according to others, of 26 to 25. On the other hand, the mortality also is greater among the male children, in the proportion of nearly 27 to 26; in consequence of which about the 15th year, the numbers of the two sexes are brought nearly to an equality; there is, however, still a surplus in favor of the males."* This proportion of deaths of the two sexes before the 15th year, agrees very well with the view of this item, giving in the foregoing table.

According to a table in the *American Quarterly*, from the *Edinburgh New Philosophical Journal*, the calculation is given, that the probability of a person being sick, between 20 and 30 years old, is to that of one between 40 and 50 as 37 to 50; and the comparative duration of sickness, is as 4 to 7. After the age of one year, the most hazardous period of life is between 20 and 50. We must at once be struck with this, by casting an eye over our first table, where it will be seen, that between 20 and 30 years, the deaths are nearly in proportion of one eighth of the whole number; between 30 and 40, a little more than this; and between 40 and 50, about one tenth.

We shall now conclude, with merely expressing a wish, that from the importance of the subject, some plan may be devised to put us in possession of the annual number of births in this city. This, we think, may be done by suitable enactments requiring an annual report from physicians; and, if thought proper, these reports may be substantiated under oath. A similar requisition may be easily made of the clergy, as respects marriages. Should the subject be viewed in the light that we feel convinced it deserves, we shall soon have satisfactory data for accuracy in our statistical calculations, and, above all, we shall be able, we think, to demonstrate that the aspersions of peculiar unhealthiness cast upon our emporium have no foundation in truth; but, on the contrary, that life at least is under no greater risks in New-York than in any of her sister cities. Even with the imperfect materials afforded us, we believe we have advanced a step in repelling the slander which has been so often repeated in our hearing, that we were inclined to believe it ourselves.

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* American Quarterly Review. No. XVI.

† Universal Geography, Vol. 1. p. 198.

To our City Inspector we would respectfully suggest the propriety of giving us, in his reports, the number of foreigners yearly arriving at this port, the amount of population of the city, and the number of deaths in the cities from which he may receive official statements on this point. Of course, the last item would necessarily be for a preceding year. This would be bestowing but a trifling additional labor on his reports, but they would then become much more valuable documents than they now really are, even with these deficiencies. J. J. G.

MEDICAL INTELLIGENCE.

ANATOMY AND PHYSIOLOGY.

Two newly discovered Muscles for compressing the dorsal vein of the Penis in Man and Animals. By Mr. SHEKLETON and Mr. HOUSTON. (*Dublin Hospital Reports*, vol. v. p. 459.) By the researches of a number of eminent anatomists, it is well known that the *corpus cavernosum* and *corpus spongiosum* of the *penis* have been shown to consist of minute arteries and veins, which are large, numerous, and communicate freely with each other; and that by this arrangement a number of communicating vessels is formed, into which the blood is poured abundantly on occasion of various *stimuli*, so as to cause erection—a phenomenon from which the vessels in which it takes place have been distinguished by the name of *erectile*.* Though there is little doubt that the veins thus arranged are the chief seat of this action, it is still undetermined by what agents or mechanism the occasional injection is effected. We know, in short, that the blood is poured from the arteries into the minute communicating veins during erection; that it is detained in the latter order of vessels for some time; and that then it is gradually removed from the minute veins into their larger branches and trunks, while the part shrinks to its volume previous to erection. We are, however, ignorant of the means by which this retardation of the blood in the communicating veins is effected, and of those employed to effect the removal of the blood after erection.

Mr. Houston of Dublin, by whom this kind of structure has been recently examined, and whose researches in proving that it is the cause of the rapid protrusion of the tongue of the chamæleon, we on a former occasion brought before our readers, has partly modified the old, and partly confirmed the new, explanation of erection. Mr. Houston, though obliged to admit, that the mere peculiar vascular arrangement is all that the anatomist can demonstrate in most organs susceptible of occasional erection, thinks, nevertheless, that this phenomenon depends on two circumstances—the one the impulse of blood by nervous energy through the arteries, the other a mechanical process, by which the blood is detained during erection in the veins of the organ.

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* Elements of General Anatomy. By David Craigie, M.D. Chapter vii. p. 133—139.

His attention was directed to this peculiarity by the fact communicated by Mr. Shekleton of the existence of two muscles in the dog connected with the *venæ dorsales*, of which the position is well suited for compressing these vessels, and preventing the escape of blood from them. These muscles, which are situate between the arch of the pubis and the *penis*, had been already noticed by Cuvier in the bear, dog, raccoon, and tailed monkeys, in the following terms: "Les *ours*, le *raton*, et le *chien*, &c. ont un petit muscle dont les fibres charnues partent des branches du corps caverneux et se réunissent à un tendon moyen qui se fixe à la verge au dessous du pubis. Dans la *guenon callitriche*, où nous l'avons egalement trouvé, il n'avoit pas de tendon moyen, et devoit servir à comprimer la *veine dorsale*." Anatomie Comparée, tome v. p. 102.

These observations have been more fully verified by Mr. Houston, who, after recognising them in the dog, wolf, jackal, bear, badger, cat, raccoon, coati-mondi, marmot, aguti, horse, seal, &c. at length found them, on the 15th July, 1830, in the human body. In the dog of good size, each muscle is about three fourths of an inch long, and at its origin one third of an inch broad. It rises from the posterior part of the pubal *ramus*, about an inch below the symphysis, and, tapering, ends in a tendon, which joins that of the opposite side, and in which is a transverse slit for the dorsal vein. In man these muscles are less distinct than in most of the *mammalia*. Rising from the pubal *rami*, above the origin of the *erectores penis* (*ischio-cavernosi*) and *crura*, and ascending forwards, they are inserted above the dorsal vein by mutual union on the mesial line. They consist of a thin layer of muscular and tendinous fibres, about an inch long, and three fourths of an inch broad, and may perhaps be regarded as portions of the *ischio-cavernosi*, which, instead of being inserted into the sides and lower surfaces, ascend over the upper surface of the cavernous bodies, to compress, by their contraction, the dorsal vein. Between these muscles and the penis are the veins, arteries, and nerves of this organ. Their anterior fibres are distinguished from those of the *ischio-cavernosus* muscles by the fibrous attachment of the *crura* to the pubal bone; their posterior margins are separated from the anterior of the *levatores ani*, or Wilson's muscles, by the pudic artery, which divides them in its course to the *dorsum* of the penis. They are named by Mr. Houston the *compressores venæ dorsalis penis*.

The use of these muscles is manifestly to compress the dorsal vein of the penis, and, consequently, to impede the return of the blood from the erectile vessels. It does not appear that they are under the influence of the will, and Mr. Houston appears neither to have investigated nor determined this point. That they are less developed in man than in the lower animals he admits; and, on the whole, they appear to be mere rudimentary elements of a structure, which, for reasons not yet explained, is most perfect in several of the lower animals. One point is obvious, that not even in the human subject can they be allowed the exclusive power of compressing the cavernous veins, since this is effected partly by the *bulbo-cavernosus*, and partly by the *compressor prostatæ.*

Mr. Houston more than once tied the dorsal veins in a dog with the effect of producing morbid turgescence of the penis; but we do not mean to enter into the consideration of the uses of the muscles.

It is an analogical confirmation of the anatomical fact here stated, that the tongue of the chamæleon, in which Mr. Houston already demonstrated an erectile arrangement of vessels, possesses in the internal cerato-mamillary muscles, organs similar to the *compressores venæ dorsales.* These muscles rise from the anterior part of the side of the lower jaw, and, passing backwards on the upper surface of the style and muscles, end in a tendon, which, uniting with that of the opposite side about two lines before the articulation of the *cornu* with the body of the hyoid bone, becomes broad, and is inserted into the roots of the posterior *cornua.* A further confirmation of the analogy of structure, is found in the fact that this tendon is perforated by an opening, through which these veins pass in their course from the erectile vessels of the tongue to the recipient trunks, and that stretching these muscles interrupts a current of mercury flowing along their canal.—*Edin. Medical and Surgical Journal, January,* 1831.

2. *Dr. Houston on the Mucous Membrane of the Rectum.**—The structure, form, and disposition of the tunics entering into the composition of the rectum, ought, of course, to be familiar to all who venture to meddle with this gut. Yet they certainly are not so, and probably the majority of the reputed strictures of the rectum are not strictures at all, but merely some of the natural impediments offered to the introduction of foreign bodies. Dr. Houston whilst engaged in anatomical preparations illustrative of the peculiar and relative anatomy of the parts in the pelvis, discovered the existence of valves in the rectum, formed by its mucous membrane. The mode of exhibiting them consists in distending and hardening all the parts with spirit, previously to being cut open.

"The valves exist equally in the young and in the aged, in the male and in the female; but in different individuals there will be found some varieties as to their number and position. Three is the average number, though sometimes four, and sometimes only two are present in a marked degree. The position of the largest and most regular valve is about three inches from the anus, opposite to the base of the bladder. The fold of next most frequent existence is placed at the upper end of the rectum. The third in order, occupies a position about midway between these, and the fourth, or that most rarely present, is attached to the side of the gut, about one inch above the anus.

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* Dublin Hospital Reports, Vol. V.

In addition to these valves, of tolerably regular occurrence, there are frequently several intermediate smaller ones, but which, from their trifling projection and want of regularity in their situation, merit comparatively little notice.

The form of the valves is semilunar; their convex borders are fixed to the sides of the rectum, occupying in their attachments from one third to one half of the circumference of the gut. Their surfaces are sometimes horizontal, but more usually they have a slightly oblique aspect, and their concave floating margins, which are defined and sharp, are generally directed a little upwards. The breadth of the valves about their middle varies, from a half to three quarters of an inch and upwards, in the distended state of the gut. Their angles become narrow, and disappear gradually in the neighboring membrane. Their structure consists of a duplicature of the mucous membrane, enclosing between its laminæ some cellular tissue, with a few circular muscular fibres.

The relative position of the valves, with respect to each other, deserves attention. That situated opposite to the base of the bladder, most commonly projects from the anterior wall of the gut; the valve next above from the left, and the uppermost from the right wall: that near the anus, which is of least frequent occurrence, occupies a place when present, towards the left and posterior wall. Many deviations from these stated points of attachment for the folds will be found to occur, but the arrangement is nevertheless always such, as to form, by their being placed successively on different sides of the gut, a sort of spiral tract down its cavity.

In regard of the sacculated form which the rectum acquires by the presence of these valves, the gut resembles somewhat the colon in the condition of its interior; but in the peculiar spiral arrangement of the valves, it bears more an analogy to the large intestine of some of the lower animals, in which, as for example the cæcum of the rabbit, the large intestine of the serpent and dog-fish, a continuous spiral membrane traverses the cavity from end to end, and gives to the alimentary matters a protracted winding course towards the anus."

The presence of these valves may be ascertained in the unprepared body, if looked for soon after death, and before the tonic contraction of the gut has subsided. They then over-lap each other so effectually, as to require considerable manœuvre in conducting a bougie or the finger along the cavity of the intestine. Mr. Crampton uses a rectum bougie bent with a couple of light spiral turns, and in the introduction moves it about gently between his thumb and fingers. He was induced to adopt this form, from having noticed that of itself it assumed such, when allowed to become soft by remaining some time up the gut. He practices the spiral movement, from observing that during its return down the canal after being thus modelled, it is disposed, if handled loosely, to take on that course. Dr. Houston suggests that these valvular folds may possibly become the most frequent seat of stricture, and he mentions some points connected with that affection which tend to support in some measure his suggestion.—*Med.-Chirug. Review, Jan.* 1831.

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3. *Experiments by M. Collard de Martigny on Pulmonary Absorption and Exhalation.* (*Journal Complémentaire*, xxxvi. 225. and xxxvii. 168.) M. Collard de Martigny has lately undertaken a set of experiments for the purpose of determining some of the disputed points in the chemical physiology of respiration, and the following are his principal results.

1. According to the doctrine of Lagrange, which is a modification of the original theory of Lavoisier, oxygen gas is absorbed *in substance* by the venous blood in passing through the lungs, and does not unite with oxygen to form carbonic acid till it has proceeded with the arterial blood to the capillaries. This opinion rests merely on some imperfect experiments by Girtanner, who thought he discovered oxygen in arterial blood. It is singular that these experiments should not have been repeated till now, as they obviously, if correct, lead to a very precise and important conclusion. On trying them, M. Collard de Martigny procured results decidedly negative. Having filled a tube 36 inches long with mercury, and reversed it so as to produce a barometric vacuum, he admitted about an inch of fresh arterial blood from the crural artery of a living dog, and left the apparatus at rest for an hour and a half. At this time, the mercury having descended considerably, the gas which had been developed was transferred into a graduated tube, and acted on by caustic potass. The whole of it was entirely absorbed, and, consequently, consisted of carbonic acid only.

2. The more prevalent doctrine at present is, that the oxygen which is absorbed by the blood in its passage through the lungs, *unites with* the blood; that carbonic acid is formed in the capillaries by the various processes of nutrition and secretion; and that the carbonic acid thus formed is given off in the lungs by a process of exhalation and secretion, independently of the presence of oxygen. This doctrine rests mainly on an experiment first performed by Girtanner, and afterwards more carefully by Edwards; where a frog, being made to breathe hydrogen alone, gave off, nevertheless, more than its own bulk of carbonic acid in the course of a few hours. This result, if the mode of experimenting is free from fallacy, is decisive of the question. It proves, that the carbonic acid given off during respiration, is not formed in the lungs by the union of oxygen with the carbon of the venous blood in its passage through the pulmonary circulation, but arrives with the venous blood in the lungs ready formed, and is, in short, the product of the various functions of the capillaries. But M. Collard de Martigny considers, that even the method of experimenting pursued by Dr. Edwards, is liable to fallacy. On the one hand, hydrogen and carbonic acid are so different in density, that they mingle slowly, and in consequence an analysis of a portion of the mixture does not represent

the composition of the whole mass. And, on the other hand, according to a law in physics, the tissues of the body, being impregnated with carbnoic acid, must give out that gas when immersed in an atmosphere of any other gas. To obviate the former fallacy he substituted azote for hydrogen; and to do away, as much as possible, with the latter, he withdrew and analyzed the air in which the animal was confined once every hour, or every two hours, and replaced it by pure azote; so that in this way he could ascertain whether carbonic acid was given out only at first, and, therefore, arose merely from the displacement of the gas diffused through the textures, or continued throughout the whole duration of the experiment, and, consequently arose from the secretion of the gas by the lungs. In every experiment he found carbonic acid given out in considerable quantity, as Edwards also invariably remarked. In an interval varying from seven and a half to nine hours, he procured, in seven different experiments, from 2½ to 2¾ centilitres, or between 1⅔ and 1¾ cubic inch of carbonic acid. In every instance he found nearly twice as much gas formed during the first period, as during any subsequent period; which he attributes to the displacement of carbonic acid in the textures by the azote. But after the first period the quantity formed in every equal period of time was nearly the same, till the animal began to become torpid, and the respiration to languish, when the formation of carbonic acid rapidly decreased. Hence he concludes, that after the first period the carbonic acid is derived solely from the blood in the lungs.

The exhalation of carbonic acid from the lungs, then, is independent of oxygen being supplied to it. The presumption must consequently be, that it is secreted or excreted by the blood in the lungs. But in order to establish this doctrine satisfactorily, it is necessary to show that the blood, in passing through the lungs, really loses carbonic acid, a point which no one before M. Collard de Martigny has endeavored to ascertain. He has proved it, however, as he conceives, by a comparative examination of the arterial and venous blood of the same animal. When each was collected directly from the blood vessel in a barometric vacuum, as formerly described, he found that venous blood almost always gave out twice, and, on one occasion, thrice as much carbonic acid as the arterial blood. But when respiration was suspended by exhausting the lungs, and tying the trachea, the arterial blood was found to contain as much carbonic acid as the blood in the veins.

3. Physiologists have differed with one another as to the question, whether the carbonic acid gas given out in the lungs is equivalent to the oxygen absorbed by them; but, on the whole, the prevailing opinion is, that more oxygen is absorbed than is accounted for by the carbonic acid exhaled. M. Collard de Martigny arrives at the same conclusion by a series of experiments apparently more free from fallacy than any previously made. The chief difficulty is to avoid the fallacy arising from the probability of the air in the lungs of the animal, at the beginning of the experiment, not corresponding in quantity with what remains at the end. The author got rid,

as he conceives, of this difficulty, by not confining the animal in the jar of air to be breathed, but by fixing a tube in its trachea, exhausting the air in its lungs, then establishing a communication by means of the tube, between the lungs and the jar, and, at the end of the experiment, expelling the residual air of the lungs into the jar by strong pressure of the chest. He has related the particulars of nine experiments of this kind, of which eight were performed with the rabbit, and one with the Guinea pig. In four of them, the quantity of air breathed was four *litres*, or 244 English cubic inches; in four others, it was three *litres* and a half, or 213 cubic inches; in one it was 183 cubic inches, and the duration of the experiment varied from nine to fifteen minutes. In the largest quantity of air, the quantity of oxygen was 51.2 cubic inches. Of this there remained unaccounted for by the residue of oxygen, together with the carbonic acid evolved, 6.5, 16.3, 16.9, and 16.9, cubic inches in four different experiments. In the four experiments with 213 cubic inches of air, the total oxygen being 44.8 cubic inches, there remained unaccounted for, in like manner, 2.3, 4.7, 7.1, 10.4, and 18.4, cubic inches. In the experiment with 183 cubic inches, where the oxygen was 38.4, the quantity unaccounted for was 4.7 cubic inches.* In all these experiments, then, it is clear, that a large, though variable quantity of oxygen gas disappears—a larger quantity is absorbed than is given off in the form of carbonic acid. But we must observe that M. Collard de Martigny commits a serious oversight in supposing that his method of experimenting is free of fallacy, or represents natural respiration. On the contrary, after the first inspiration, the animal breathes an atmosphere considerably impregnated with carbonic acid gas, consequently the blood absorbs the gas, which it is very well known to do when a moderate proportion of carbonic acid in the air is presented to it; and in this way the apparent disappearance of oxygen may be sufficiently accounted for.

4. Another point of dispute among physiologists who have occupied themselves with this subject, is, whether any azote is given off or absorbed. On the whole, the greater number of authorities unite in finding that a small quantity is given off. But of late much confidence has been reposed in the experiments of Dr. Edwards, who found that azote is sometimes absorbed, and sometimes given off, according to the season of the year. M. Collard de Martigny is at variance, however, with Dr. Edwards on this point, having in-

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* The particulars are contained in the following tables, which are carefully calculated from the original tables of the author.

Oxygen in Air before Respiration.	Oxygen remaining.	Carbonic Acid.	Oxygen disappeared.
1. 51.2	22	12.3	16.9
2.	27.1	17.6	6.5
3.	22.6	11.8	16.9
4.	20.3	14.6	16.3
5. 44.8	17.4	17.0	10.4
6.	14.4	12.0	18.4
7.	19.7	22.7	2.3
8.	18.7	19.0	7.1
9. 38.4	15.3	18.4	4.7

variably found, in many trials at different seasons, that a small quantity of azote is given off. In the experiments formerly mentioned to determine the proportion of oxygen which disappears in respiration, he found, in four trials, with 244 cubic inches of air, that azote was exhaled to the amount of 1.9, 1.8, 1.6, and 0.1 cubic inch; in four trials with 213 cubic inches, the quantity exhaled was 4.1, 3.6, 1.8, and 1.3 cubic inches; and in one trial with 183 cubic inches, the quantity was 4 cubic inches.

5. Lastly, M. Collard de Martigny considers the question, whether any water is formed in the lungs by the union of the oxygen of the air with the hydrogen of the blood. The idea that water is so formed, has been, we believe, universally abandoned in Britain for some time, and we were not aware that this branch of the Lavoisierian doctrine of respiration still met with its favorers in France. It may be at the same time true, as our author states, that it is a notion more easily rejected than disproved. The objection first urged against it, that hydrogen never unites with oxygen at so low a temperature as 100°, was met with the rejoinder, that such union readily occurs when the hydrogen is in a *nascent* state. But M. Collard de Martigny objects, that according to his own experiments, and those of M. Chevalier, hydrogen is never in a nascent state brought in contact with azote without ammonia being formed, which he has never found in the halitus of the respiration. Another objection is, that whether common air or azote be respired, the quantity of halitus formed is pretty nearly the same.

In a paper which will appear presently, the author of the present essay undertakes to prove that *animal heat is altogether independent of respiration.—Edin. Med. & Surg. Journ. Jan.* 1831.

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4. *Discovery of Nerves of the Cornea.*—We find it stated in a German journal, that these nerves have been lately discovered by Professor Schlemm, of Berlin, according to whom, they originate from the superficial branches of the ciliar nerves, and may be traced along the sclerotic, and over the orbiculus ciliaris towards the cornea, between which and the sclerotic they penetrate, and become imperceptible.—*London Lancet, Dec.* 1830.

On the effects produced by Posture on the frequency and character of the Pulse.—He must be a very superficial observer, who has not noticed that posture has a considerable effect on the character of the pulse, especially as to its frequency. It is these changes which form the subject of Dr. Graves' paper. He states, that in a healthy adult the pulse is more frequent in the erect than in the horizontal posture, by from six to fifteen beats in the minute, the difference increasing with the frequency of the pulse at the time of the experiment: thus, if it has been raised to 90 or 100 by previous exercise, the variation may amount to twenty or even to thirty beats. One obvious explanation that might be offered of the phenomenon in general, is, that more muscular effort is required to keep the body in the erect than horizontal posture; but Dr. Graves ascertained, that the effect continued when this apparent cause was removed, by contriving to have individuals retained in the erect position without any effort of their own. It was conjectured, that if the body was placed with the feet up, and the head down, a still further retardation would occur than when the body was horizontal; but the result did not confirm this idea, the inverted posture producing no retardation of the pulse.

In all other diseases in which the author has investigated the pulse in different postures, he has found a difference in the erect, sitting, and horizontal postures; but,—and we request attention to what follows—"in six cases of hypertrophy, with dilatation of the heart, no such difference was perceptible, although all these patients, at the time of my making the experiment, were in a debilitated state, which it will just now appear, is that in which the changes induced by position are the most remarkable. In four of these cases, the existence of hypertrophy with dilatation has been ascertained by post mortem examination, and of the other two, a man and a woman, at present in the Meath hospital, there can be no doubt of the state of the heart in one of them, while in the other, the existence of hypertrophy is more than probable. For the sake of accuracy, I shall give the precise results of the experiments I made before the class on these six patients. Where two numbers follow each other, they denote successive quarters of a minute, that being first which immediately followed the change of posture.

DOYLE:	*Monday,*	Pulse in Horizontal position,	72
		——— Sitting, ...	72
		——— Standing, . . .	80
	Tuesday,	——— Horizontal, . . .	72
		——— Sitting, ...	80, 72
		——— Standing, . . .	80, 72
	Wednesday,	——— Horizontal, . . .	72
		——— Sitting, ...	72
		——— Standing, . . .	72
MALONE:		——— Horizontal, . . .	60
		——— Sitting, . . .	76, 60
		——— Standing, . . .	76, 60

In both of these cases, although the pulse during the first quarter of a minute after the change of posture rose in frequency, yet in the next it fell to the previous standard; indeed, it may be remarked, that the greatest frequency, where muscular exertion has been used to assume the sitting or erect posture, is observable in the first ten seconds which follow that exertion, both in health, and still more remarkably, in disease; and, consequently, the first quarter, or even half of a minute, should be rejected, where we wish to ascertain the permanent alteration thus produced.

In two other cases, Gorman and Reilly, in whom the hypertrophy and dilatation had attained to a great size, even this acceleration during the first few seconds was scarcely perceptible, and the pulse almost at once resumed its former standard. The same observation applies to the two patients at present (July 5th) in the hospital. In the man the pulse is 76, both when he is lying or sitting; in the woman, in whom, certainly, extreme hypertrophy, with dilatation, exists, the pulse is constantly above 100, and the same in both postures. They have been both long ill, and are much debilitated by the effects of the disease, and of the remedies employed to mitigate its violence.

Dr. Graves deduces the following conclusions from an extensive series of observations:

"1st. That the greatest difference occurs in patients laboring under fever, or in a debilitated state, in consequence of fever, or any other cause. It may amount to thirty, forty, or even fifty, between the horizontal and erect postures.

"2dly. That this difference decreases after the first quarter of an hour, in most cases, but always remains considerable, as long as the same position is observed.

"3dly. That in persons not much debilitated, the difference is much less than that stated above, and often does not amount to more that ten.

"4thly. That when the patient lies down, the pulse rapidly falls to its former standard.

"5thly. That in some the increase in frequency is greater between the horizontal and sitting posture, than between the latter and the erect, while in others, the contrary takes place; so that generally the frequency in the sitting posture may be taken as a *mean*.

6thly. In persons convalescent from fever or acute diseases, I find it extremely useful to the physician to ascertain the comparative frequency of the pulse in the horizontal and in the erect position. The greater the difference, the greater is the debility of the patient, and consequently the more guarded must his medical attendant be in allowing him to sit up for any length of time, particularly if the pulse on his lying down does not resume its usual degree of frequency."

Statements in some respects analogous to the preceding are made by Dr. Thompson, in his valuable work on inflammation, and as we remarked at the commencement, the general fact must be familiar to every man of moderate observation; at the same time, we do not know of any one who has made the subject matter of especial investigation, and the paper of Dr. Graves is therefore calculated to elucidate a fact not always sufficiently attended to, and certainly of considerable importance in reference to symptomatology.—*London Med. Gazette, Oct.* 23, 1830.

SURGERY.

6. *Recto-Vesical Lithotomy.*—Our readers may be aware that this operation, which was first performed by Sanson in France, and did not experience a very cordial reception or extensive patronage in its native country, has latterly become the vogue in Italy. It has also been tried on one or two occasions in this country, but so many plausible objections have been urged against it, that it is not likely to be commonly adopted. In the transactions of the Medical and Physical Society of Calcutta, a case is related by Dr. Waddell, in which a stone was extracted from the bladder by this operation.

Case. A boy, about nine years of age, born of Mussulman parents settled in the town of Rangoon, had been affected with the ordinary symptoms of stone in the bladder for seven years. On examination, a stone was discovered by the sound, and by the anus. The recto-vesical operation was proposed, and performed on the following day, by Mr. Tweedie, field-surgeon to the Bengal division of the army.

The boy being placed near the end of a high table, in the usual position for lithotomy, and the thighs being held apart by assistants, the operator introduced the fore and middle fingers of his left hand into the rectum so as to embrace and fix the stone, and with a scalpel, having its cutting edge defended with cloth wrapped round it, till within half an inch of its extremity, an incision about three quarters of an inch long was made into the shoulder and neck of the bladder, in the direction of the raphe; the scalpel being then withdrawn, the stone was brought away by a pair of common ball forceps. Several impediments occurred during the operation, such as the evacuation of the patient's bladder and bowels, the bearing down of the transverse folds of the rectum, and the recession of the calculus before the forceps; nevertheless the time occupied did not exceed five minutes, and not above half an ounce of blood was lost. As soon as the little fellow was released from the table, he had another stool, with some degree of straining; but all uneasiness quickly subsided, and before we left the house, he seemed to feel as if nothing was the matter with him.

The stone was of a conoid form, four and a half inches in length, three and two tenths of an inch in circumference at its greatest diameter, and weighed six drachms. Its surface was rough and granular, and its appearance that of the triple phosphate. The urine after the operation became feculent and the stools urinous—on the tenth day he was out of bed and walked about the house—after this he became feverish, with pain in the umbilicus, and passed a live lumbricus, six inches long, by the uretha, when the urine was bloody for some days, and voided with straining. On the thirty-third day the urine was still mixed at times with fæces, and interrupted in its discharge by flatus. At night, when asleep, the urine was occasionally voided by the rectum. In about six weeks after the operation, the communication between the rectum and bladder closed.

Dr. Waddell appends some extremely laudatory observations on the recto-vesical operation, but as his practical acquaintance with it seems to be confined to the foregoing case, we may take the commendations for what they are worth. One point we cannot pass over in silence. After enumerating what he conceives to be the common modes of death from the lateral operation, but in which the doctor is certainly wrong, he contrasts the results with those from the recto-vesical methods. "On the contrary, (*cœteris paribus*, that is, the prostate and bladder being in a healthy state, and the restorative powers of the constitution unimpaired,) there is abundant evidence to show that the improved recto-vesical operation is attended with little danger to life!" This passage evinces a very imperfect acquaintance with the facts on which it professes to rely. The abundant evidence is all the other way. In the Archives Generales, for July, 1824, we learn that of sixty-nine who have undergone the recto-vesical operation, thirteen have died, or rather less than one in five—and of those who recovered, there are eight with fistulous openings; but of five patients operated on in the Surgical School at Turin, three died, whilst eleven cut in the lateral way recovered. Dupuytren operated after Vacca's method in six instances. He lost three patients by inflammation within the pelvis, and the other three remained with incurable fistulæ. Dupuytren was asked if he would still try the plan; he made no answer, but shook his head. Riberi saw two children cut by Sanson. One died in a few days of peritonitis, and the other was given up before Riberi's departure. Barbantini, who first introduced the operation into Italy, has acknowledged its disadvantages.

But, says Dr. Waddell, it is the improved operation, which is not to be accompanied with danger. Ay, there's the rub! Which is the improved operation? Is it Sanson's first, or Sanson's last—or Vacca's—or Mr. Sleigh's—is it the high or is it the low—with the division of the sphincter, or without it? Alas! we cannot tell. Perhaps Dr. Waddell intends *his* case as an instance of the improved operation. If so, we can assure him that the proceeding adopted has been denounced by all, except its inventor, if such he can be called, Mr. Sleigh. A large stone could not, and a small one should not, be extracted by it. In this operation there is risk of wounding the vesiculæ—there is risk of wounding the cul-de-sac of the peritoneum—there is risk of recto-vesical fistula—there is risk of foreign bodies getting into the bladder from the rectum, and forming the nucleus of a future stone. Besides these objections, the operation is more difficult, and in Dr. Waddell's case it was so, than the lateral operation, and the convalescence is more tedious. In fact, it is agreed on on all hands, that the operation performed in the present case is, for ordinary cases of stone in the bladder, a bad one.

The avowed object of the recto-vesical operation has always been, the extraction of a larger stone than could readily be removed by the lateral operation. To effect this, it is a sine quâ non that the sphincter should be divided. Several plans have been adopted;

but, as far as we know, the incision in all, has been in the line of the median plane, in that of the raphé of the perineum. It is a question whether by such an incision, we obtain more space than we should by the lateral operation. In this, the rectum is frequently wounded whilst cutting into the groove of the staff, or in using the bistoire cachée, and the experience of surgeons has proved that such wounds of the gut are not usually dangerous. We have seen the rectum wounded in three instances, whilst performing the lateral operation, and no materially bad consequences followed. A man at St. George's Hospital was lithotomized in the usual way. Symptoms of urinous infiltration and sloughing at the neck of the bladder ensued, and in order to allow a more ready exit to the matter, urine, and sloughs, Mr. Brodie laid open the rectum from the wound. The patient, who previously seemed to be dying, recovered. These observations naturally led to what we are about to mention.

A young man, at present in the hospital, had labored under the symptoms of stone in the bladder for twenty years. Many surgeons had examined him, and all, we believe, except one, had refused to perform the lateral operation, on account of the size of the stone. That one gentleman had *not* examined the patient by the rectum. Baron Heurteloup would not drill the stone; he thought it was too large. The calculus, when felt from the rectum, appeared to be of extreme size, and its anterior extremity was partially impacted in the prostatic part of the urethra. The high operation had been proposed, but this was considered unadvisable, for if the stone was of the magnitude imagined, the sonde-à-dard could not have been employed with facility. On mature consideration, Mr. Brodie adopted a modification of the lateral and rectal operations, which may prove of great service on future occasions.

Having introduced the staff, he cut upon it with the knife in the perineum in the usual way, and passing it along the groove of the staff into the bladder, he divided part of the prostate. He then took Blizard's knife, passed it along the staff into the bladder, completed the section of the prostate and part of the neck of the bladder, and turning the edge of the knife towards the right, nicked the wound in the prostate on that side, by which means he acquired additional room at a small expense of division of parts. The staff had lain on the right side of the stone; it was now withdrawn. Mr. Brodie took a curved probe-pointed bistoury, with a sharp-pointed bistoury blade concealed in it, and capable of being pushed forward or retracted at pleasure. He passed this to the bottom of the wound, and introduced the fore-finger of the right hand into the rectum. Having felt with this finger the button-end of the bistoury, the sharp-pointed blade was pushed forwards, and the wall of the gut penetrated on the finger. This blade was then withdrawn—the probe-pointed bistoury had entered the rectum—and its division was completed from within outwards, by drawing out the bistoury with the probe-end resting on the fore-finger, as is done in the operation for fistula ani. The opening in the rectum at the bottom of the wound was not exactly opposite to the wound in the bladder, in order that a kind of valve might be formed, to prevent the ready transit of the contents of the bowel into the bladder. The remainder of the rectum was divided on its anterior and left lateral aspect. The forceps were introduced, and the stone was readily extracted. It did not prove so large as had been anticipated by all who had on different occasions, examined the patient. It was long, its anterior end was impacted in the prostatic part of the urethra, and from being always held in this situation, it had appeared to be fixed by its magnitude, and the finger in the rectum could never reach its posterior boundary.

The wound obtained by the operation was capable of admitting the egress of a calculus of very large size. The operation itself was simple, scientific, performed without difficulty. There was little or no bleeding at the time of its performance, and although a slight secondary hæmorrhage occured in the afternoon, it was readily arrested by pressure on the pudic artery, and has not since returned. The event cannot yet be considered as determined, but the patient's condition at present is not unfavourable. We shall give the case more in detail at an early opportunity.—*Med.-Chirurg. Review, Jan.* 1831.

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7. *Dislocation of the Ossa Innominata.*—On the morning of the 17th December, Lieutenant S. of Light Cavalry, a muscular man, about 36 years of age, met with the following accident.

While on parade, his horse stumbled and fell; Lieutenant S. was thrown forward over the horse's head, and was on his knees and hands, when the horse, in recovering his fall, again fell, struck him on the perineum with his head, and came with the whole weight of his body upon the left hip. To use his own words—"The horse appeared to drive him into the ground; he heard the bones make a noise like the rattling of a bag of pebbles, and he thought his bowels were driven out in front. He found he could not stand, and when being placed into the *dooly*, the bones made a snap, and gave him great pain."

He arrived at his house in a quarter of an hour, and was placed on his bed. The position of the limb was natural in every respect, and I moved it in various directions without giving him any pain, or hearing any crepitus. I now turned him over very gently, and when on the right side, I perceived a slight projection at the posterior and superior spine of the left ilium; but when he had completely turned round on his face, the projection was not perceptible, nor was there any pain on pressing the part, nor any appearance of fracture, and the position of the limb was quite natural. I again turned him on his right side, and when in that position, I pressed my right hand on his hip-joint, and with my left bent the thigh towards the abdomen; in doing this, the bones of the pelvis made a hard grating noise, unlike any usual crepitus, and it appeared to me as if the pelvis were completely divided. The motion gave him great pain, and he requested me not to repeat it. I now turned him over very gently on his back, in which position he was easy, excepting a slight pain at the sacro-iliac symphysis; the limb remained in the natural position, and was exactly the same length as the other.

It appeared to me a marked case of dislocation of the ilium from the sacrum, but such an occurrence being very unusual from a similar cause, I requested the attendance of Messrs. Campbell, Leese, and Spencer. From my description, and observing the position of the limb, and the ease with which it was moved, they thought the injury must be of the nature I supposed, and did not think it necessary to make any further examination, as it must be attended with great pain.

The patient died next day.

On removing them, (the intestines,) and detaching the psoas and iliac muscles from the os innominatum, on which there was much effused blood, a total separation of the ilium from the sacrum was discovered, at the sacro-iliac symphysis, and a small transverse fracture of the ilium, nearly two inches in length. On cutting through the recti muscles over the pubes, about an ounce of brown-colored fluid escaped, of an urinous smell. The ossa pubis were disjointed at the symphisis, the cartilage was torn from the bone on the left side, leaving the surface rough, and there was a space of about half an inch between them.*—*London Med. Gazette, October* 23, 1830.

8. *Congenital Enlargement of the Tongue.*—Peter Meldrum, from Invernesshire, æt. 19, admitted under the care of Mr. Liston, July 18th. The tongue is of a very large size, compressible and elastic, projects three or four inches from the lips, and fills completely the cavity of the mouth. It is of a dark brown hue, in some places livid; its surface is rough, at some points granulated, at others fissured, and at many traversed by large venous trunks. At the back part of the dorsum the papillæ are much enlarged, granulated points are numerous, and there are several plexuses of dilated blood vessels immediately beneath the investing membrane. There is occasional bleeding from an ulcerated fissure near the centre of the dorsum, and also from the lateral parts of the projecting portion; in the latter situation several cicatrices are visible. Saliva flows in a continuous stream from the apex of the tumor. The lower jaw, which is much separated from the upper by the interposed tongue, is elongated, and unusually narrow; the teeth, particularly the front ones, are placed at a distance from one another, are encrusted with tartar, and project almost horizontally from their sockets. A depression is felt at the symphysis menti, as if the two portions of the jaw were detached, and the intervening space occupied by ligamentous or cartilaginous substance.

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* Mr. Baker, in Calcutta Medical and Physical Journal.

States that the enlargement is congenital, and that the organ swells every three months to a much larger size than the present, and then gradually subsides; that a periodical tumescence took place a short time before his admission, and that the tongue has now nearly regained its average size. The bleeding is more frequent and profuse when the swelling is greatest, and then, too, he suffers much pain in the part.

General health good. Articulation is very indistinct, and when attempted, the unwieldy organ of speech does not undergo much movement; but the patient is readily understood by those accustomed to hear him, and is reported to attempt occasionally the singing of Highland airs. He swallows, and even masticates, pretty freely.

Mr. Liston stated, that from the periodical enlargement and diminution of the tongue, and the erectile tissue being evident in many parts of its surface, he considered the tumor to be composed partly of a structure resembling that of aneurism by anastomosis, and to be throughout extremely vascular. He therefore would not attempt removal of any of the exuberant growth by incision, and resolved to intercept its vascular supply, and then perhaps to diminish the organ to the usual size, by the employment of ligatures.

On the 21st, a ligature was applied to each of the lingual arteries, immediately below the apices of the cornua of the os hyoides. The dissections were deep and difficult, though not tedious. On one side an irregular branch of the external jugular vein was divided, but its hæmorrhage was easily arrested by compress, and did not impede the operation. Slight difficulty of deglutition was felt for two days afterwards. No immediate change in the tumor was perceptible, but by the 23d it was evidently diminished, and there was a distinct though gradual decrease for some days.

On the 27th, the ligatures came away from the vessels; but the patient complained of severe pain during the night, and next day the tongue was swollen to about twice its former size. His pulse was 116, rather full, and his appetite impaired. There was also a very slight erythema round the wounds in the neck. Punctures with a lancet were made in the tongue, and by hot fomentation a considerable quantity of blood was abstracted, after which the pain and swelling greatly decreased.

30th.—There is considerable swelling and redness of the integuments on the right side of the face, accompanied with little pain except on pressure. Tongue much the same as yesterday. Pulse 120, firm. Appetite improved. Passed the night restlessly.

He continued to suffer no small degree of pain in the fauces and tongue, and at the extremity of the latter there was an appearance of suppuration being about to take place; but the part became discolored, of a glazed appearance, and sloughing was soon established. In these circumstances, Mr. Liston conceived that the projecting portion might be safely removed by ligatures, these being employed to assist the process which nature had just commenced. Accordingly they were applied on the 2d of August, and the patient suffered but little. On the 4th they were tightened, and again on the 5th. At that time he complained of no pain, and felt very comfortable. The isolated extremity of the tongue was almost sphacelated.

He now began to suffer acute pain in the wrist joints and hands; leeching and fomentation were employed, but suppuration quickly occurred; the abscesses were early opened. His pulse became frequent and weak. His quantity of wine was now increased, and as much nutriment given as possible. On the 7th, the portion of the tongue anterior to the ligatures was removed in a state of complete sphacelus, and on examination had evidently been exceedingly vascular. He continued easy during the night, but on the morning of the 9th became restless, and moaned much; his pulse was 140, and almost imperceptible at the wrists; his breathing became oppressed and accelerated. He sunk rapidly, and died half an hour after the visit.

On dissection, the bones of the tarsus, and the extremities of the radius and ulna, in both arms, were found softened and deprived of periosteum, and matter was effused amongst the ligaments. The cellular tissue round the base of the tongue, and amongst the deep muscles in the upper part of the neck, was extensively gangrenous, and infiltrated with bloody sanious matter. Both lingual arteries were obliterated.—*London Med. Gazette, Nov.* 6, 1830.

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9. *On Amputation of the Leg at the Knee-joint.* (*Archives Générales de Médicine, Septembre,* 1830.) This operation, notwithstanding the efforts of Petit, Brasdor, and Hoin, during the last century, to recommend it, has long fallen into nearly total disuse. *M. Velpeau,* the author of the paper of which the following is an analysis, has taken the pains to examine carefully the works of every modern writer of note on operative surgery, and from this inquiry it results, that few mention the operation at all, others pass it over cursorily, as having fallen into desuetude, and some even condemn it unreservedly, and assign reasons for not countenancing it. *M. Velpeau,* however, now one of the surgeons of the Hospital of La Pitié, in Paris, has lately come to the conclusion, that amputation at the knee joint is, generally speaking, a simple and safe operation, which terminates in recovery as frequently, and as soon, as amputation at the middle of the thigh, and leaves the patient a stump as useful as amputation of the leg under the joint.

In his paper he first gives a short sketch of nine cases which have been recorded by authors before him. Of these, one only proved fatal. Of the remainder, the greater number used a wooden leg with great facility, and one of them, a slater by profession, could mount scaffolds and climb roofs, as when he had two legs. He next relates two cases in which he was induced to revive the obsolete operation. The leading features are as follows:

Case I.—In January, 1830, a young man of puny frame, and exhausted by diarrhœa and other sufferings connected with necrosis of the tibia, was admitted into the Hospital of St. Antoine, and amputation of the leg below the knee joint was resolved on. When the soft parts, however, were divided immediately under the condyles of the tibia, *Velpeau* found the periosteum lardaceous, thickened and detached from the bone, the disease of which evidently extended as high as the joint. Being afraid of alarming his feeble patient by proposing a new amputation in the middle of the thigh, he immediately resolved to amputate at the joint; for which purpose he extended his incisions upwards, and completed the operation without the lad being aware that he had undergone more than one. As there was not a sufficient quantity of sound integuments to form a flap from the back of the leg, an attempt was made to form one out of the integuments in front. But the wound united only in part, and an uncovered space remained about an inch in extent. This, however, was cicatrized in two months; the lad's health and strength returned rapidly; and at the time of the publication of the case, he was using a wooden leg as dexterously as if the operation had been performed at the place originally intended.

Case II.—The second instance was a case of severe compound fracture of the left leg, terminating in gangrene. "After a time the mortification, without becoming absolutely defined, nevertheless ceased to make sensible progress. The rest of the limb, though much ecchymosed, instead of swelling more, began to subside in a few days. But an ichorous discharge, which became daily more and more abundant, and was attended with constant, acute pain, an almost continued fever and diarrhœa, soon dissipated my expectation of preserving his limb. The state of the skin, which could not be saved lower than three finger-breadths below the patella, the ecchymosed condition of the cellular tissue, and muscles under the same level, and the extent of the fracture of the bones, which approached close to the joint, put amputation of the leg under the knee altogether out of the question. Unwilling, however, to amputate at the middle of the thigh without absolute necessity, I determined to disarticulate the joint, and did so in the following manner. The skin was divided circularly at the level of the tuberosity of the tibia, and reflected more than two inches upwards in the usual manner. The joint was then opened anteriorly, just under the patella, and traversed backwards till the knife reached the popliteal artery and nerves; and along with these, the origins of the muscles were next divided perpendicularly, or right across. I thus procured, as it were, a sleeve of integument three inches in length, which would have rendered immediate union an easy matter, if the traces which appeared of contusion on its inner surface had not compelled me to adopt the opposite mode of dressing the wound." The succeeding fever was high, so that two blood-lettings were required. On the sixth and seventh days erysipelas appeared on the stump, was checked by poultices in the neighborhood of the wound, but spread up the outside of the thigh, and threatened to end in suppuration. Notwithstanding this accident, and the subsequent formation of two suppurating patches on the angles of the condyles, the wound was quite healed in sixty days. The operation was performed near the end of May, and when the case was published, in the beginning of September, the man could walk with a wooden leg as easily as the former patient.

The details of this case are followed by a brief notice of a third, that of a lad of nineteen, whom *M. Velpeau* had an opportunity of examining very lately, and who had his limb amputated at the knee-joint seven years before. He walked with a wooden leg as well as if the operation had been performed below the joint.

The author next proceeds to consider the different objections that have been brought against this operation. The supposed risk of exposing a large cartilaginous surface to the air he maintains is visionary; the flap may be made to adhere to the surface of the cartilage, as well as to other living parts; and though adhesion should not take place, there is nothing peculiarly formidable in the inflammation that ensues. The supposed size of the wound is an erroneous objection, because, by his method of operating, the greater part of the wound, as in other amputations, will, in general, unite directly. The operation is not, as some allege, more difficult or painful, or recovery more slow, than after other amputations. The most important objection, that the patient is no better off than after amputation in the middle of the thigh, is also an erroneous one. This might appear sufficiently from the great freedom with which his patients make use of their wooden legs; but it is likewise rendered evident by an attentive consideration of the relative circumstances in which the muscles of the thigh are placed. "After amputation in the middle of the thigh," says M. Velpeau, "how low soever it may have been performed, the point of support for the wooden leg must be the ischium. The movements of the thigh joint are almost annihilated; the gait is the same nearly as if that joint were anchylosed. But after disarticulation of the knee, the point of support is at the extremity of the thigh, the thigh preserves all its movements, and the patient is in the same state as if he had sustained anchylosis of the knee. If it is true, that in respect of the functions of the limb, it is better to amputate under the knee, than above it, the advantages of disarticulation of the joint ought to be equally beyond question, for the weight of the body is thrown on the artificial limb after the latter operation exactly as after the former. But, besides, in disarticulation of the knee, the wound is almost entirely confined to the integuments, and involves no bone or aponeurosis; the surface to be subsequently covered is convex, regular, free of roughness, and not exposed to the effect of retraction of the muscles; while in amputation at the thigh, the wound comprehends an extensive aponeurosis, innumerable muscles of great bulk, a bone which is extremely subject to be denuded, and the section of which produces an agitation not always without its danger, together with the whole cellular tissue which unites all these parts. To conclude, at the knee only one considerable artery must be divided, the twisting or compression of which is almost as certain a mode of preventing hemorrhage as the application of a ligature; while, at the thigh, besides the principal artery, there is always a number of secondary branches which require to be secured."

In the conclusion of his paper, the author examines the several methods which have been proposed for performing this operation rejects them all, and describes minutely that which he has found the most convenient. We have described the most material steps of it in relating his second case. The only points which it is necessary to mention here are the following. In dissecting and throwing back the skin, care must be taken to preserve, on its internal surface, all its natural layer of cellular and adipose texture, and the capillary vessels which supply it. Then the patellar ligament being divided, the operator divides the lateral ligaments; and the knee being now slightly bent, he detaches the semilunar cartilages, divides the cruciform ligaments, traverses the joint, and concludes by cutting, at one stroke, perpendicularly, and on a level with the reflected skin, the vessels, nerves, and origins of the muscles. Lastly, in adapting the flap, the surgeon arranges the line of union from before backwards so as to correspond with the groove between the condyles, and leaves the ligatures hanging out at the posterior angle.—*Edin. Med. & Surg. Journ. Jan.* 1831.

PRACTICE OF MEDICINE.

10. *On the Acrodynia, or Epidemic, which has reigned in Paris and its environs, since the year* 1827. *By* M. CHARDON, JUN.—This epidemic, although it has not consigned so many of our continental neighbors to their long homes as the political epidemy of July, 1830, has yet been productive of no trifling misery both in Paris and its neighborhood, for two years past, nor are its ravages yet at an end. It is one of those mysterious visitations which evidently originate in exhalations from the earth, though the nature of these effluvia is entirely unknown.

This malady, generally unaccompanied by pyrexia, affects in a peculiar manner, the nervous system—especially by a painful sense of formication in the hands and feet—as also a numbness that invades first the members, and spreads afterwards to the trunk itself. The cellular tissue of the cutaneous structures becomes affected—the hands and feet swell—and œdema invades the face and several other parts of the body. The formication and painful numbness of the extremities, are so characteristic of the complaint—that, both in Paris and in the country, it is known by the name "*mal des pieds, et des mains.*" On this account, our author has given it a more classical title—ACRODYNIA—or pains in the hands and feet. It appears that this mysterious epidemic has affected immense numbers in France, and was not very dissimilar to the Dandy fever of the West Indies, which spread over so many islands of late years.

The complaint usually commenced by a sense of the most painful formication in the fingers and ankles, spreading thence to the arms, thighs, and even the trunk. The sensation was compared to a thousand punctures made with the point of the lancet. An intense heat aggravates the sufferings of the patients, and obliges them to keep their feet out of bed. The perversions of sensibility are extremely various and distressing. Many cannot put their feet to the ground without feeling as if they were treading on the points of pins or needles, &c. The muscular powers of the members are also much affected. Many people could scarcely move their lower extremities without the greatest suffering. The fingers were usually in a state of permanent contraction. Subsultus tendinum was no unusual phenomenon, together with cramps, spasms, and other torments.

An affection of the mucous membranes was not an accidental accompaniment, but a characteristic feature of the epidemic. Sometimes it amounted to acute gastro-enteritis, was attended with smart fever, and was only of short duration. The functions of the digestive organs were always much disordered. Cholera morbus was occasionally developed in the course of the disease. Inflammation of the conjunctiva was no unusual concomitant, as was also pulmonary catarrh. In short, all the mucous membranes were more or less affected. Dysury and gonorrhœa were not unusual. The skin was affected in a great variety of ways—but an intolerable sense of stinging, succeeded by erythema, were the usual precursors of the different complaints. Eruptions of all kinds took place—some resembling urticaria, some like small pox, and others like chicken pox, pemphygus, &c. In fact, there was no end to the cutaneous affections.

The next train of phenomena consisted in the establishment of dropsical effusions in various parts of the body—œdematous, ascetic, and anasarcous.. Abundant perspirations were often seen to occur in a periodical manner. Sleep could not be obtained, on account of the iritation and pains. The senses were often suddenly and strangely affected. Some lost sight, or hearing, or smelling almost instantaneously. The duration of the disease was as various as its symptoms. Some patients recovered in a few weeks—others required several months for convalescence. There are many who suffer to this day from attacks in the early part of 1828. The prognosis was favorable when the disorder of the internal organs was slight—unfavorable in opposite conditions. Immense numbers lost their lives by the epidemic, or by the consequences which it left behind—especially dropsy.

In several of the hospitals, the most rigorous dissections were made, but no light was thrown upon the disease by the scalpel of the anatomist. M. Louis, at La Charité, examined very carefully some who fell victims to the most exquisite forms of the epidemic, and could not find any thing to account for the disease itself, or the death of the patients. In some of the public establishments, however, it is stated that portions of the spinal marrow were found softened and partially disorganized.

Treatment. As may be imagined, the means of curing or alleviating this strange disease were numerously employed. Venesection was sometimes found useful, especially in the beginning, and where symptoms of congestion about the head existed. Under all other circumstances the relief was only momentary—or none at all. Leeches to the abdomen produced no mitigation of the colic and diarrhœa, though the doctrines of Broussais would assure us of their efficacy. They were much more useful when applied along the spinal column. So were cupping-glasses with scarification. Warm bathing was beneficial—especially vapor and sulphur baths. The distressing sense of formication was occasionally soothed by saturnine lotions, and even by unctuous applications. Moxas applied to the spine were advantageous in a few instances. But the most remarkable benefit was obtained by blisters, especially when they were made to produce a purulent discharge. They were applied to the most painful parts, or to the track of the spine. They were dressed with the antimonial ointment.

Emetics were administered internally at the beginning, with some advantage. M. Cayol employed purgatives combined with opiates, and it was said, with success. It is needless to detail the catalogue of internal medicines which were administered by different practitioners and at different hospitals. Few, if any of them, did good, as the disease generally ran its course in spite of physic.

Causes. Although this epidemic spared no class, yet it chiefly affected the poor. Among the troops, the officers suffered little compared with the men. Males were much more numerously affected than females. The bread, the wine, and other species of provisions, were alternately accused as causes of the epidemic, but without the least foundation. The state of the air was suspected, with more justice ; but no appreciable vitiation of the atmosphere was present, except a peculiar bad smell which infested several places where the epidemic prevailed, both in the neighborhood of Paris, and in some other places. But the true nature of the cause of this epidemic, as well as that of many others, remains in impenetrable obscurity.

In respect to the principal or primary seat of the disease itself, there has been much diversity of opinion. It was, at first, considered as rheumatismal—again, the spinal marrow was looked on as the principal seat of the malady, as evinced by the formication, the paralysis, and various other lesions of the nervous system. This opinion was strengthened by the fact, or at least the belief, that those remedies which were applied to the spine had most influence on the disease, such as leeches, blisters, frictions, &c. Strychnine considerably aggravated the symptoms. But the fact is, that the skin, the cellular tissues, the mucous membranes, the lymphatics, and various other structures of the body, were affected in this epidemic, and therefore it is not possible to confine its seat to any one organ or part.

Many facts are brought forward to show, that the disease was communicable, or in other words, contagious. This we have no reason to doubt, since there are few epidemics that do not evince this character, at some period of their course. The French physicians, however, have not subjected themselves to criticism, as many English have done under similar circumstances, by broaching the doctrine that the epidemic was *imported* from abroad.

It it hardly necessary to say, that almost every kind of treatment was equally unsatisfactory—we might say, with no great violence to truth—INEFFECTUAL!—*Med.-Chirurg. Review, Jan.* 1831.

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11. *On the Fever at Gibraltar*, 1828.—In a lengthy history of this fever, Dr. Smith states, that it first visited Gibraltar in 1804, and was there considered to have been imported, and analogous to the disease contended by Chisholm to have been carried from Africa to the West Indies, and in several subsequent appearances of the fever, its origin was believed to have been connected with the arrival of vessels from North America or the West Indies. In 1814, however, it could not be traced to any foreign source, and the truth of the doctrine of importation was then first doubted; and at the appearance of the late epidemic, the local origin and contagious properties of the disease were advocated by many. "To this conclusion they came, chiefly from the following reasons; namely, that, in former epidemics, the disease had never been satisfactorily traced to a foreign source, nor had its progress been marked by any of the ordinary laws of contagion; that it had always appeared about the same season of the year among the lower orders, particularly where the population was dense, the houses badly ventilated, and where due attention to personal and domestic cleanliness had been wanting, &c. &c.; and that it was not contagious, they inferred from its never having been carried from one locality to another by persons or other means; from its not having spread either at Europa-Flats, the Neutral-Ground, Wind-Mill Hill, or in the bay, amongst the shipping, although free communication between the town and these places were permitted; and, lastly, from similar facts having been repeatedly observed in other countries, where yellow fever appears epidemically."

The existence of the fever was first noticed in a district remarkable for its filthiness, as will be perceived by the following official observations of the late Dr. Hennen. "The whole of these cases," says he, "as I am informed by Mr. Wilson of the Civil Hospital, are in the line of a drain which comes from Mr. Martin's house, and within a few yards of the doors of the tenements where the individuals have been taken ill, there is a large open grating, from which very offensive vapors are said to arise; and Mr. Wilson states to me, it is hardly possible to be otherwise, as no fewer than four privies empty their contents into the drain." Again, in a letter of the same date, "After a most minute personal inspection of the whole neighborhood," Dr. Hennen states, "in reference to my letter of this day's date, I have minutely inspected district No.

24, in company with Mr. Wilson of the Civil Hospital, Mr. Woods, the medical officer attached to that district, and other staff officers, and it is with much regret I have to state to your excellency, that in almost every step I took in that district, I had reason for surprise, not that fever had broken out there, but that it had not extended farther; from whatever causes it may have proceeded, the pauper population is dense to a degree incredible, except to those who have seen it. In sheds without ventilation, without drainage, and generally composed of the slightest materials; in tiers of beds as close as in a crowded transport, numerous individuals sleep; they go out to their work at an early hour, and return at gun-fire, locking up their miserable places of nocturnal shelter during the day, and leaving them saturated with the steams of their bedding, their food, and the overflowing receptacles of their ordure." "The detail," he adds, "would be too disgusting to enter into; but I most respectfully submit to your excellency the indispensable necessity of sweeping away the whole of these sheds, which I have every reason to suppose are unauthorized by the government."

The alarm spreading to a considerable extent, the governor of Algesiras sent a deputation of medical officers to inquire into the nature of the fever, and "it is remarkable that these gentlemen did not carry the disease into Spain. They visited every case in the garrison, and could not fail to have had their clothes saturated with the contagious principle, or themselves contaminated, had any contagious properties existed."

The epidemic finally extended through several regiments, and the hospitals were occupied by a great number of patients, from whom no mischief resulted by communicating the fever to the men with other diseases in the same wards, although no precautionary measures were adopted. "For example, from the 7th September, when the fever was declared to be in the garrison, to the 15th of October, a period of five weeks, thirty-six cases of other diseases were received promiscuously into the hospital with the fever patients, and out of these only eleven were attacked with the disease. One man was seventy-five days before he was attacked, and another with a fractured leg, although thirty-four days in hospital, never caught the disease. The hospital servants escaped also, until the disease had become general in the district where the hospital is situated; and, up to the time of Dr. Hennen's death, on the 3d November, there was no prohibition to a free communication between the hospitals and the camp. The convalescents were discharged directly to their regiments, without their *kits* or wearing apparel being submitted to any process of purification, and I myself had daily communication with the camp. The officers, also, who confined themselves to the camp, escaped, although some of them accompanied their sick companions to hospital, rendering them every kind office, and sitting with them in the same wagon which conveyed them to hospital. The other regiments, 42d, 43d, 73d, and 94th, were attacked much about the same time, and were severally encamped, the first two on the Neutral Ground; the 73d and 94th on Europa Flats, and Wind-Mill Hill.

In the Civil Hospital, such was the pressure for admission into that institution, as to render it necessary to relieve the wards the moment a patient passed the *acme* of disease; accordingly, convalescents were discharged in all stages, many of them having blood exuding from their gums; and to some very poor people, the soiled blankets under which they had passed the disease were given to them. The majority of these people went to the Neutral Ground, where they recovered rapidly, and where they slept with their families as usual, and mixing with whom they pleased. Where, then, existed the bugbear contagion?"

"The period of the first appearance of the fever in the south is involved in some doubt; but it is certain it did not become general there for nearly a month after it had been prevalent in the town, and which could not have happened had the disease been contagious, as there was a constant communication between these two places. The Naval Hospital is situated in this district, and the repeated intercourse necessarily kept up between the servants of that establishment and the neighborhood, could not fail to show its bad effects on the health of the inhabitants earlier, had contagion existed. The first case which occurred was in Dannior's Buildings, on the 31st August, in a woman of the name of Domine, who went to town on that day to visit a sick friend, and suckled the child of that friend, Bernarda Riva, who lived in Caille Comedia, and on returning home in the evening was taken ill when passing South Port Gate, the original focus of the malady, and for three or four days labored under a very severe attack of fever; yet no one else in the same building was taken ill till nearly a month afterwards, when the disease had become general, and after twenty-six individuals had died in the same, or adjoining houses, to the place where this poor woman lived. The next case was a young lad of the name of Acres, whose mother lived near the bridge leading to the Naval Hospital, in a small confined wooden shed, close to a gully, through which runs a drain, and which emitted very offensive vapors during the summer. This lad had been living, for some time before he was taken ill, in No. 24 district, and was three or four days in his mother's house before he was sent to the Civil Hospital on the 5th September. His mother had had the fever during a former epidemic, but a sister who lived in the same house, and slept close to her brother in the same room, was not taken ill before the 22d of the month, when she was sent to the Civil Hospital, and died on the 28th. Two daughters of a Widow Moir, in the same neighborhood, were taken ill, one of whom died. From this period the disease became general in the district."

"After this brief enumeration of the leading facts illustrative of the origin and progress of our late epidemic fever, I ought perhaps to say something of the symptoms by which it was characterized, as well as of the different modes of treatment; but as I shall have occasion to notice these when commenting on the answers, I shall for the present defer this part of the subject; suffice it to remark, that this truly formidable disease was acknowledged by all parties to be identical with the black vomit fever of the West Indies and North America, and of the same nature with that which had at former periods depopulated this garrison.

"Of the causes of the malady I am unable to speak with any degree of certainty. That it was not imported, I think every candid man will admit who has deliberately weighed the evidence given on the subject before the Board of Commission, and the facts I have, and shall hereafter state; and were it not that my friends, Messrs. Fraser and Wilson, have already so fully discussed these topics, I should have been induced to enter more at length into the question here. In fact, every endeavor to establish the importation doctrine has failed, and both the colonial secretary, Sir George Murray, and Sir James M'Grigor, director-general of the army medical department, I have heard, are convinced there is not the slightest grounds for such a belief; but, on the contrary, that there is every reason to suppose the disease owed its origin to causes within the walls of the garrison.

"What those causes are, is not easily determined. By some the disease was referred to a vitiated atmosphere, a dense population, close and ill-ventilated apartments; a bad state of the drains, exhalations from the privies, &c.; while others were of opinion, that it owed its origin to the soil, or to emanations resulting from the decomposition of animal and vegetable matter, either singly or combined; but how far either the one or the other of these are correct, I shall advance no opinion. It was evident, however, there was a febrilizing influence present in our atmosphere the whole of the year 1828, as was manifest from its effects, for scarcely a month passed without cases of sporadic yellow fever occurring. As early as the 11th of January, a Jew, named Kian Bensimol, was admitted into the Civil Hospital with well-marked symptoms of this disease, and died on the fifth day, vomiting great quantities of black matter. On the 13th of March, Solomon Anachony, a Jew also, was attacked with great severity, but recovered; and much about the same time, Mr. Haden, of the commissariat department, fell a victim to the disease. On the 14th July, the orderly at the Civil Hospital had a smart attack, accompanied with yellow skin, although he had fever during the epidemic in 1813; and on the 16th of the same month, another Jew, named Maclief Bennues, was admitted into the Civil Hospital, and expired on the eleventh day, with yellow skin, and vomiting of matter of the color of coffee grounds. Besides these admissions into hospital, other cases occurred in the garrison. Abraham Bensimon, for example, died with 'black vomit,' in Irish Town, on the 3d May, after a few days illness; and on the 3d or 4th of August, Maria Pescadina, servant to Mr. Frazer, was attacked, recovered partially from this attack, and relapsed on the 27th of the same month. Mr. Hasson, keeper of the Civil Prison, was severely attacked on the 15th of this month, and his servant on the 17th; and at an early period of the season, febrile attacks were so numerous in the 23d Fusileers, as to call the attention both of the commanding officer and myself to the subject; and an official communication was made, referring the cause of our unusual sickness to the bad state of two drains, which were in the immediate vicinity of the barracks, which were choaked up with a large quantity of soil accumulated at their mouths, emitting very offensive effluvia. There was nothing, however, remarkable, or any physical change appreciable by our senses in the season of 1828 from that of former years. The summer was cool. There was a prevalence of westerly winds; but bad smells were complained of by old residenters, some of whom predicted a sickly season from this circumstance alone; and I may here mention, that on cleaning out some of the drains, cart-loads of dead rats were found; and there was said to be an unusual accumulation of soil in the public privies, which I have heard had not been cleaned out for six years."—*Edinburgh Medical and Surgical Journal, for January*, 1831.

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12. ***Dr. Darwall, on a peculiar Species of Paralysis.***—Dr. D. has met with a species of paralysis, not evidently depending on cerebral or spinal disease, which, so far as he knows, is not described in medical works. Of the actual cause of the complaint, and the proper treatment, he fears that he can furnish little information.

"The first case which occurred to me was in a washerwoman, who had been accustomed to carry heavy weights upon her arms. The paralysis was confined, at first, to the muscles which raise the os humeri; there was also great emaciation of the deltoid muscle; and she could only move the limb a few inches from the trunk, and this with great difficulty. Nevertheless, she could bend the fore-arm upon the arm, and, to use her own expression, she could do any thing under the elbow. The hand had also its full power. There was not the slightest symptom of affection of the head, nor, indeed, excepting this paralysis, did the patient appear to have the slightest ailment. The treatment instituted did no good, and she gradually lost the whole power of the upper extremities; after which time I lost sight of her, and have since heard nothing of the case.

About the same time, another instance presented itself, in a man who was in a cornfactor's warehouse, and was much accustomed to move large bags of oats, beans, &c. Like the former case, his incapacity was at first confined to the muscles which raise the arm, but gradually involved the whole limb, till at the present time, seven or eight years from the original attack, he has no use whatever in the superior extremities. In this instance, it was suspected that there was some disease in the origin of the nerves supplying the muscles of the arm, and a seton was inserted in the neck, but without any good effect. The muscles continued to waste, and the limb to lose its power. In neither of these cases was any pain experienced.

A short time after I had seen this last case, a man applied to me, for a severe pain in the left deltoid muscle. He also had been accustomed to carry very heavy weights, and latterly experienced great weakness in the limb. As in the former case, the muscle was much wasted, and was very nearly half the size of the other. Considering the pain in this instance to be rheumatic, and confined to one muscle, acupuncturation was recurred to, and three needles were inserted in different parts of the deltoid muscle. The result was most satisfactory; the pain disappeared, and the muscle gradually recovered its bulk. From that time to the present, now seven years, there has been no return of the affection, though he suffers severely from a chronic inflammation of the bronchi."

The next case was that of a girl, eighteen years of age, stout and plethoric. According to her account, she suffered excessive pain for several hours in the left arm and shoulder, which terminated in the total abolition of power in the limb. She was bled and purged, the moxa was applied, and then a seton. This came out or was removed by herself, and another was threatened, but most conveniently the whole of the power of the limb returned with a "strong convulsion of the muscles," just before the expected operation. There can be little question that this was an example of that compound of hysteria and humbug, which a good practitioner will seldom mistake, a bad one almost always. For some time, no other cases than the foregoing presented themselves to Dr. Darwall, till last May, when he witnessed two more.

The first patient was a locksmith, and had been suffering from severe pain in the right shoulder for some time. Colchicum was ordered, and in a few days he returned free from pain, but utterly unable to raise his arm, the deltoid muscle being exceedingly flabby. Electricity was tried with considerable benefit, and after the third application, he stated that he had fully recovered the use of the limb. He has not been seen since.

The last case is still under treatment, and is exactly the counterpart of the first which is mentioned in the paper, excepting that the left arm only is affected. The loss of power had commenced in the muscles that move the shoulder, and had gradually been extending downwards for four months, but she could still do any thing under the elbow. There was slight pain in the deltoid on pressure, and considerable pain in the shoulder-joint on attempting to raise the arm. The muscles of the arm were all greatly emaciated. She had been accustomed to carry heavy weights. Acupuncturation had no effect, and electricity was tried. At first it prevented the further progress of the complaint, and latterly she has acquired additional strength in the limb, and some increase of bulk in the muscles.

"The circumstance," says Dr. Darwall, "particularly calling for notice in these cases, is the pain preceding the loss of power, and the apparent facility with which, while in this state, the farther progress of affection was prevented. Are we also to regard the fact, of several of these persons having been accustomed to carry heavy weights, as merely accidental; or is there any connexion between the exertion thus required, and the after loss of power, as cause and effect? Again, in what way is the pain, which simulates rheumatism in its character, to be regarded? And in what way does electricity act?

The impression on my mind is, that this is primarily an affection of the nerves supplying the elevating muscles, and that they may have been injured by the straining necessary in raising or carrying heavy weights. I am the rather inclined to this opinion, from having observed a similar wasting of muscles, in a case in which the ligaments of the shoulder-joint had been strained, if not broken, and in which, though actual dislocation did not take place, the os humeri hung at a distance from the scapula; the space between the acromion process and the os humeri, being increased to nearly an inch. Now here it was impossible that much straining of the nerves should not take place, and we know that, without the full influence of the nerves, the muscles cannot act. Dr. Wilson Philip's experiments also prove that secretion is under the superintendence of the nerves; and if secretion, then also nutrition must be concluded to be equally under their superintendence. Farther, supposing that a function be not exercised, diminution of power invariably succeeds, and generally wasting of the organ, which is the instrument of the function. Thus, then, we should first have an affection of nerves, producing pain, and impeding the use of the muscles; secondly, the muscles being dependent to a certain extent for their nourishment upon the nervous energy, wasting would ensue, and loss of power. And again, the loss of power necessitating a still farther diminution in the exercise of the organs, would increase the emaciation, till not only the function of the muscles would be annihilated, but their structure almost, if not entirely, would be wasted away. I throw out these hints with considerable diffidence, yet, as in all the cases I have seen, the affection attacked persons who were dependent upon their labor for their subsistence, it is an object of no small importance, to ascertain the nature of this disease, and to stop it in its first progress. How far electricity will be found serviceable in these cases generally, remains yet to be ascertained. Its action, however, is that of a stimulant, and though it probably is not the same with the energy afforded by the nerves, it has evidently the power of exciting that energy, and where the structures remain unimpaired, it might be expected to be useful."—*Med.-Chirug. Review, Jan.* 1831.

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13. *Case of Rheumatic Fever, succeeded by Pericarditis, Hypertrophium Cordis, and Hemiplegia.*—The subject of this history was a stout recruit, W. Scruton, æt. 19, who, shortly after his admission into the regiment, in the year 1826, was attacked with acute rheumatism of a very severe type.

April 3, 1826.—Taken into the hospital, complaining of pains in all the joints and limbs; face flushed; pulse 130, and strong;

white tongue, and slight inflammation of the tonsils and arch of the palate.

4.—Pains and fever abated.

6.—Knees and ankles swelled and tender; tongue and skin moist, and the bowels open; pulse reduced in strength and frequency.

7.—Swelling and pain of the joints abated; pain now referred to the sternum; urgent cough, and full strong pulse; urine turbid.

8.—Blood drawn yesterday highly cupped, and buffy; faint after the leeches; symptoms generally relieved; subsequent swelling of the left wrist, with pain; urine clear; skin and tongue moist; pulse frequent; cough, without pain on inspiration.

15.—He has gained ground daily; pulse 76; diet low.

19.—Pulse 130; the swelling of the wrist subsided; pain at the sternum, and cough upon inspiration; tongue dry and furred.

April 20th.—Symptoms abated, and pulse reduced. Respiration easy.

25th.—Pulse 130; pain of the left side, without cough.

26th.—Slept well; much relieved.

27th.—Disposition to intermittent pulse. Some pain periodically recurring, and referred to the region of the heart. The heart acts strongly against the ribs, and he complains of a sense of suffocation when he lies upon his back, but breathes freely when upright.

April 28th.—Feels low, and is restless. Pulse 60, and intermits about every fourth beat. The heart bounds under the hand. At times he is incoherent, and always repeats the last word of every question put to him.

April 29th.—Recovered his self-possession. Pulse as before.

May.—The state of the patient has varied but little, and he has been free from urgent symptoms, excepting a minor recurrence this month of pain at the sternum, the pulse rising to 100, with a little cough.

June 24th.—These symptoms subsided, and the pulse returned to 60 again, and he enjoyed convalescence.

The hand applied to the region of the heart produced a sensation, as if the cardiac motions were impeded by adhesions of the pericardium, and the heart itself was greatly enlarged. Being of quiet and regular habits, and having been some time convalescent, he was discharged the hospital, and put upon such duties as required little or no bodily exertion, and he continued in good health nearly four years, during which period he was never excited by drinking, and was regular in his habits.

1830, May 6.—This morning Scruton was found in the privy, lying upon the floor, in a state of complete insensibility and stertorous breathing. His clothes bore marks of diarrhœa. His pulse was strong, full, and 130. He was carried into the hospital about five o'clock in the morning. The assistant-surgeon, Mr. Miles, immediately took from a single orifice in the vein of one arm 64 ounces of blood. In about five minutes, at the filling of the third basin, the patient opened his eyes, and showed signs of some degree of consciousness. After this period, the pulse sinking, the arm was bound up. In the course of the day he became more sensible to external impressions, was restless, applied his hand to his head, and sobbed frequently. He had no power over the right side, and could only say, "yes" and "no." The integuments had not lost their sensibility. He could not thrust out the tongue, but appeared to apprehend when spoken to. There was a heaviness about the eyes.

He daily but gradually recovered some degree of consciousness; he became less restless, and could move on the right side a little, and put out his tongue, when told to do so; but his mouth and tongue were drawn to the left side when moved.

His words are limited to "yes" and "no," most generally the latter, repeated three or four times. When intending assent, "yes" is expressed with a nod of the head; and when dissenting, he shakes his head.

In a few days he became very noisy when he wanted any thing, and cried out very loudly at night, dosing much during the daytime. His stomach often rejected fluids, which he was urged to swallow in copious draughts. Mutters incoherently at times. Very little urine.

May 16th.—Tongue latterly dry and brownish. Pulse quick. Very riotous.

The pulse became less frequent, and he was more tranquil in a few days. His appetite improved to voracity, and he gained considerably in strength and consciousness. He could move the affected arm, and walk by dragging the leg after him. His spirits were good, and he went out to see his friends. He took no medicine, excepting a little aperient occasionally, and meat was allowed once a day, with a little diluted wine, or two tea-spoonfuls of brandy, in his arrow-root. His speech was still limited to "no" and "yes."

July 28th.—He removed with his regiment to Brighton in very hot weather, from which he appeared to suffer much inconvenience. On his arrival at the hospital, he was weaker, his heart beat strongly, his tongue was loaded with a brown crust, and sordes were collected about the teeth, and the pulse was frequent.

August.—This excited state wore off, and his tongue got clean and moist, but he did not recover strength. His appetite varied, but was usually bad; his bowels acted freely, and his pulse became tranquil. Sometimes he rejected all food, especially if it were liquid, unless a little wine or brandy were added to it. He occasionally experienced severe fits of dyspnœa, and rapid action of the heart; and latterly, some degree of yellowness appeared in the eyes, and about the face, neck, and forehead.

Some amendment occasionally took place; but, after frequent relapses, he sunk into a state of imbecility, and died on the morning of the 27th of August, 1830.

Sectio Cadaveris, 26 hours after death.—The vessels of the dura mater and the longitudinal sinus distended with blood, and the right hemisphere of the brain in a state of general congestion. The left hemisphere diminished in size, and the vessels full. In the middle lobe of the brain there was a sac, containing about ʒij. of a very thick curdy fluid, appearing as if the cerebral substance was broken down and diffused in it, and somewhat resembling pus. A delicate membrane partially enveloped this fluid, and upon it vessels ramified, one of which was of the size of half a line in diameter, close to which was a brownish yellow spot, occupying the space of a sixpence. The parietes of the sac seemed to be formed of the gray portion of the brain. The ventricles contained about an ounce and a half of serum, and about an ounce was found in the base of the skull, probably escaped from the ventricles, in opening them. The choroid plexus was very large. The cerebellum was in a natural state.

On opening the thorax, the heart appeared to occupy a considerable portion of the cavity, the pericardium adhered to the heart every where closely, and this membrane was much thickened. The right auricle and ventricle were sound, and filled with coagula, and the walls of the left were much thickened. Above the bicuspid valve there was a granular layer of apparently fatty matter, firm in consistence, and a sort of fringe work of tassels of fat, each about three quarters of an inch long, and a line in width, presented itself at the margin of the auricle; a similar formation appeared among the carneæ columnæ, but not so largely developed, and the carneæ columnæ themselves were much enlarged. The left auricle and ventricle were filled with coagula. The pleura generally adhered to the walls of the thorax by lengthened bands of coagulable lymph, and particularly so about the pericardium, all the reflexions of which were matted together. Some yellow serum was deposited in the different sacs formed by the adhesions of the right side, and not more than two ounces of bloody serum appeared in the bottom of the thoracic cavity of this side, and none in the other. The liver appeared to be granulated, the gall bladder was distended with bile, and the ducts were quite free. The rugæ of the stomach were strongly developed, and the villous coat was slightly injected, arising probably from the frequent exertions of the stomach to empty itself. The spleen was perfectly healthy, and so were the intestines, excepting a contraction of the sigmoid flexure, and the descending arch of the colon, and several rugæ about the great arch.

The urinary bladder was full.

Previous to preparing the heart as a specimen, it was found to weigh about one pound and three quarters.—*London Med. Gazette, Oct.* 1830.

MIDWIFERY.

14. *Utero-Placental Circulation, and the Phenomenon of Placental Soufflet.* (*Dublin Hospital Reports.*)—M. Kergaradec, in a memoir

which he published on auscultation, in 1822, directed attention to the fact that, if the ear be applied to the abdomen of a pregnant woman, with or without the intervention of a stethoscope, a peculiar sound will be perceived—that is, if the pregnancy be sufficiently advanced—to which he gave the name of *placental soufflet*. This particular appellation was derived from the circumstance of his observing that the sound was most perceptible at that part of the parietes of the uterus where the placenta was found to have been attached. This sound, as well as that emitted by the fœtal heart, may sometimes be distinguished through the patient's clothes; but such examinations are best conducted by having the individual in the supine recumbent posture, with a sheet merely spread over the abdomen.

Dr. Kennedy, who has made extended observations on this subject, remarks, that the placental soufflet, though it does not present invariably the same character, yet most frequently corresponds to the description given by Laennec of the "bellows-sound." Sometimes it assumes a sawing or hissing sound; and where the latter is the case, the soufflet is so protracted that one has not yet ceased when the next has already commenced. Dr. Kennedy, in illustration of his views, enters, after these preliminary remarks, into a description of the placental circulation, so far as this is known—a limit which renders his description necessarily confined;—indeed he only enters upon this part of the subject as preliminary to the inference that the soufflet depends upon the transmission of the blood through the arteries of the uterus, where the placenta is attached to it. At the same time, however, he deems it possible that the passage of the blood through the arterial tubes and cells of the maternal part of the placenta, may likewise have some share in its production.

"The placental sound is present in pregnant women only when the utero-placental circulation exists, and ceases when the vessels which serve to sustain this function are no longer pervious: a fact which we can ascertain by examining a woman shortly before parturition, when we observe this phenomenon in full energy; and again, when the uterus is empty and perfectly contracted after delivery, or when the fœtus having died *in utero*, an obstruction in this system of vessels is produced, in all which cases not the slightest vestige of the phenomenon can be discovered. The sound is distinctly periodical, alternating with intervals of cessation, and corresponding in every case with the mother's pulse at the wrist, with which it is synchronous. The sound is always heard in that part of the uterus where the placenta is or has been attached, a fact which I have frequently proved by manual examination, when it has become necessary to introduce the hand into the uterus to remove the placenta, as well as by ocular demonstration after death. The circumstance also of this sound existing in the cow, the only animal in which I have as yet detected it, exhibiting similar characters to those already enumerated, goes a considerable length in proving that it depends on the utero-placental structure, which we have already seen in this animal approaches near to that of man. Add to the above, the anatomical structure of this part of the human uterus, as already explained, so peculiar and unlike any other structure in the body, the further consideration of which we will enter on presently, when we come to consider how this phenomenon is more immediately produced."

That the placental soufflet is partly dependent on the passage of the blood through the maternal part of the placenta, is rendered probable by the change of character which the sound undergoes when the circulation is confined to the arteries of the placental portion of the uterus—as in those cases where the phenomenon is observed after the placenta has been expelled, or after the death of the fœtus; circumstances which do not of necessity cause the discontinuance of the soufflet. The following cases illustrate these points.

"I was called to a lady in Britain-street, who had been in labor for some hours. I found the funis protruding beyond the external parts, void of pulsation, and quite cold to the touch. I learned from an experienced midwife in attendance, that the funis had been expelled suddenly with the discharge of the liquor amnii an hour before; the pulsation in it was at that time observable, but ceased shortly afterwards. Under these circumstances all hopes of saving the child, either by returning the funis or hurrying the delivery, being at an end, I proceeded, while the patient was at rest between the pains, to observe what indication the stethoscope would afford. On a careful investigation no fœtal heart's action could be detected. The placental sound was, however, distinctly perceptible at the upper part of the uterine tumor, and towards the left side: it was full, but shorter, more abrupt in its termination, and wanting the sibilous whiz already spoken of as characteristic of the perfect utero-placental circulation. In the course of two hours, a dead-born female child was expelled, exhibiting every appearance of recent vitality.

"This case proves, first, the continuance of the placental sound after the fœtal circulation has ceased; secondly, the modified form which it then assumes; and lastly, goes a considerable length in support of the opinion, that although the sound owes its existence principally to the passage of blood through the arteries of the placental part of the uterus, yet that, to produce the perfect soufflet, it is necessary the blood should also traverse the placenta itself. Here the fœtal circulation must of necessity have ceased, yet the blood continued to pass through the uterine vessels which had supplied it. How then are we to account for this? We must recollect that the maternal circulation, whatever connexion may exist between it and that of the fœtus, is, strictly speaking, independent of the latter, and, if we may use the expression, complete in itself. Dr. Hunter says, 'while the placenta remains adherent to the uterus, any injection made by the uterine arteries fills not only these vessels, but also the cellular part of the placenta; and if we continue the operation, the injection returns from the cells into the veins of the uterus, and fills them likewise. The same thing happens, but in an inverted order, when we begin by injecting the veins.' Thus, then, the circulation in the mother and maternal part of the placenta, being independent of that of the fœtus, we can understand how a phenomenon produced by the former should exist where the latter has ceased. From this, however, we might be led to expect that the sound should exhibit the same characters, whether the fœtus be dead or alive. In forming such an opinion we should, as the further examination of the subject will show, fall into error.

"Another case bearing on this point, is that of Helen Lacy, who was delivered in the hospital, October 18th, 1829, of a girl, her ninth child, having been nine hours in labor. She complained much of after-pains. On seeing her forty-four hours after delivery, the uterus was to be felt, large, full, and rising high in the abdomen. On applying the stethoscope, an abrupt but distinct soufflet was observed by Dr. Collins, my late colleague Dr. Darley, and myself, occupying a situation on the left side, and near the fundus of the uterus. I had examined this patient previous to delivery, and detected in this situation the placental soufflet, sonorous, and partaking of the sibilous character. Here the sound was in every respect similar to that which we had in the former, or funis case, and in this there can be no question as to the non-existence of either fœtal or placental circulation.

"The conclusion deducible from these two cases is, that the sound is altered by the change in the circulation of the blood, which, in place of passing through the arteries of the placenta, (from the absence of the organ in the one case, and although present in the other, from its being unnecessary and perhaps impervious,) is taken up by the anastomosing vessels, here so numerous, and carried direct to the venous sinuses and veins of the uterus, and thus conducted back to the maternal system. This will explain the reason why, in cases where the child has been for some time dead in utero, as where a syphilitic taint exists in the parent's system, the delivery is effected and the placenta expelled, often without hæmorrhagic discharge; as in such the uterine circulation, independent of the placental, has had time to establish itself. The placental also, when expelled, exhibits here an exsanguineous and altered appearance, indicating its not having recently been in the discharge of its functions. I think it probable, that cases do occur in which the circulation between the uterus and maternal part of the placenta continues, if not unimpaired, at least still to be kept up after the death of the fœtus."

Dr. Kennedy next proceeds to consider and discuss the argument adduced by a German author, Dr. Haüs, but we confine ourselves to the practical application of the phenomenon in question. For the most part, pregnancy is denoted by signs sufficiently appreciable, yet it must be acknowledged, that in others the diagnosis is difficult, and that every thing which affords any assistance is deserving of attention. The experience of the author has led him to the decided conviction, that such assistance is to be found in auscultation, and that to a skilful ear it will often prove a substitute for examination par vaginam. If the placental soufflet be perceptible in any part of the abdominal tumor, particularly if the action of the fœtal heart can also be detected, we may safely conclude that the woman is pregnant. When the sound of the fœtal heart is distinct and unquestionable, the placental soufflet becomes only of value as an additional proof, but it is not essential to the diagnosis. But there are two circumstances, under which the presence of a fœtus in the uterus may be inferred, when the heart's action cannot be heard: the first is, the obvious one of the fœtus being dead; and the second, where, in the very early periods of utero-gestation, the action of the fœtal heart cannot yet be detected. Dr. K. has never succeeded in discovering the placental soufflet till after the second month, but has frequently done so in the tenth, eleventh, and twelfth weeks.—*London Medical Gazette, October*, 1830.

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15. *Observations on Operations for Cancer of the Uterus.*—Mr. Lawrence in his Lectures, reported in the London Medical Gazette, makes the following judicious observations on this subject.

"With respect to cancer of the uterus, surgically speaking, a question will occur, whether it can properly be made the subject of operation, and if so, what operation should be performed for it? Of late years we have read much in foreign medical journals—particularly the French—of the operation for cutting out the os tincæ, when it is the seat of cancerous disease; and we read that a French surgeon—who, if he did not introduce this operation, has practised it very extensively—that one individual has operated in this way not less, I believe, than fifty or sixty times! That he has performed the operation of cutting out the os tincæ, and a certain portion of the neck of the uterus, in cases where they have been said to have been the seat of cancerous or malignant disease, as often as fifty or sixty times! The mode of proceeding consists in introducing a speculum vaginæ, or an instrument which distends the vagina, and gives you the power of seeing to the bottom of it; then in introducing a pretty strong hook into the anterior, and another into the posterior part of the cervix uteri, drawing it down by them, and cutting it away with a scalpel to the required extent. Now, if one individual has had occasion to do this fifty or sixty times, we should suppose that a state of parts requiring such an operation, would be of very frequent occurrence. I cannot, however, say that I have ever seen an instance myself in which an attempt of the kind has appeared to me to be at all feasible, according to the principles which govern our proceedings in other cases of malignant disease. If we are considering what we should do in cases of cancer of the breast, or any other part of the body, we inquire into the limits of the disease; we inquire whether we have the power of fairly removing all the parts affected with the disease; we inquire also whether the disease has extended beyond its original seat to the absorbent glands in the neighborhood—that is, whether there is such evidence of the extension of the disease to the system generally as is afforded by the glands having taken on the affection; and we deem an accurate knowledge of all these circumstances necessary, before we can venture to recommend even the simple operation of removing a tumor of this sort from the breast or any other part. Now it seems to me, that we have no means of determining such points in the case of the uterus. In that, we cannot tell how far a diseased change of the cervix uteri may extend, nor how far the neighboring parts may be affected;—we have no means of judging of this, and therefore, in my opinion, we must proceed quite in the dark in making an estimate of these points. I cannot see how we can arrive at the knowledge which would justify us in performing such a painful and serious operation. The affection of the cervix uteri, which passes under the name of cancer, is generally a state of ulceration, more or less of the phagedenic character, attended with a good deal of pain and a copious discharge, and extending pretty extensively to the surrounding parts. Now this is by no means a very uncommon disease; at the same time, it is not so frequent as to make it easy for one person to have met with fifty or sixty cases. I cannot help thinking, therefore, that the portions of uterus removed in many of those cases cannot have been affected by any malignant disorder, and, consequently, that they must have been cases in which the disease, whatever it might have been, might have come to a favorable termination without the performance of the operation. At all events, as the matter now stands, the circumstances that point out its necessity, and the state of things that would lead one to say that so painful and dangerous an operation can be performed with a prospect of permanent success, are so unsettled, that I am, for my own part, little disposed to recommend the operation.

"A still more serious operation has been recommended of late, and that is, entirely removing the *whole* of the uterus; and it appears to me, that all the objections to the operation of excision of the cervix of the uterus apply with tenfold force to the extirpation of the entire uterus. In the first place, in the great majority of instances, the patients have died of the operation; that is, they have died within a few hours after the operation,—manifestly of the operation itself; the operation, in fact, has been fatal. If the same circumstances characterize the diseases of the uterus, which are called cancerous, that distinguish cancerous affections of the female breast, we should hardly expect the operation to be permanently successful, even if the patient did not die immediately after it, as she usually does, because we find that the affection is by no means confined to the part first concerned; that it attacks the absorbent system, that it extends to other parts of the economy, and, consequently, that the patient who has undergone the operation, and escaped immediate death consequent on it, according to the evidence now before the public, would have but little chance of ultimate recovery. According to the evidence, therefore, which we at present have, I must say, that I consider the extirpation of the entire uterus totally unjustifiable."

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16. *Contrasted symptoms of Peritoneal Inflammation and Puerperal Fever.—From case by Dr. Blicke's Lond. Lancet, Nov.* 27, 1830.

Peritoneal Fever or Inflammation	*Puerperal Fever.*
Period of its commencement.—May commence at any period after parturition to the end of the fourth week, but usually begins on the second or third day, but whatever the period, the pulse has been frequent, small, and wiry, from the parturition.	*Period of its commencement.*—May commence as late as the fifth day, but never later; usually in twelve, twenty-four, or thirty-six hours, rarely exceeding the latter time, but whatever the period be, the pulse will be found, if accurately watched, to have diminished in frequency and fulness after the parturition.
Preceded by vomiting or sickness, rigors or shivering.	*Preceded by* violent pain in the head, anxiety of countenance, great dejection of spirits, extreme languor, a loose, soft, flabby muscular fibre, shivering, and occasional nausea.
Abdomen.—Great general pain over the abdomen, with tension, the *latter* rapidly increasing.	*Abdomen.*—Slight circumscribed tenderness of the abdomen, with a general fulness, the *former* most rapidly increasing.
Pulse frequent, usually firm, sharp, wiry, in which state it continues.	*Pulse* rapid and full, but in a few hours, as its frequency increases, becomes weak and easily compressed.
Tongue clean or white, and dry, with thirst.	*Tongue* clean, pale, sometimes white, but moist, without thirst, though drinks two or three mouthfuls whenever it is offered.
Skin hot.	*Skin* not hot, but inclined to be clammy.
Lochia and milk are obstructed.	*Lochia and milk* are suppressed, with an extremely fœtid, cadaverous discharge from the uterus, which, in a few hours, impregnated the whole room, even the house.
Sleep.—Is not refreshed by it,	*Sleep.*—Has little or no sleep;

though it takes place, and always assigns as a reason she cannot turn in bed without pain.	either tosses about in bed, or lies listless, never asking about her child; or if she does sleep, awakes in a fright, and generally with a tendency to delirium.
Countenance alternates, but is usually flushed; eyes and lips natural, or, if otherwise, redder than usual.	*Countenance* pale and ghastly, eyes listless, cornea, canthi, and lips, white, in short a death-like appearance is presented, and is convinced of her approaching death.
Respiration difficult, with pain, and occasionally cough, with violent pain.	*Respiration* said to be difficult by the patient, but takes a full inspiration without pain or coughing.
Bowels are either costive, or violently purged, with considerable flatulence, which is voided upwards and downwards with violent pain.	*Bowels* are always rather loose, with dark, fœtid, cadaverous, frothy discharges, and it is remarkable that on each motion the patient expresses herself relieved, an admission never made at any other time in this formidable disease.
Urine scanty, but for the most part natural, and voided without pain, or very trifling.	*Urine* dark-colored, or diminished, or no ammoniacal smell, deposits a brown sediment, is voided often though scanty, and most generally with pain, occasionally not mentioning it, though it is known to be taking place from the evinced pain.
Breath natural, but inclined to be sour.	*Breath* faint and cadaverous.
Extremities cold.	*Extremities* natural heat, occasionally colder.

MEDICAL JURISPRUDENCE.

17. *Sudden propensity to Murder and Suicide. From the Phrenological Journal.*)—Frederick Jensen, workman, 37 years old, had for some time suffered from fits of giddiness, which always obliged him to keep hold of the nearest objects. In the spring of 1828, he lost a beloved daughter, which afflicted him very much. The state of his health was nevertheless *perfect, in mind as well as in body*, when he one day, (Sunday the 28th of September, 1828,) after dinner, told his wife that he would take a walk with his son, a boy ten years old. He did so, and went with him to the green which encircles the citadel. When he came there,—he now relates,—"a strange confusion came over him;" it appeared like a matter of absolute necessity to him to drown his

son and himself in the waters at the citadel. Quite unconscious of what he was doing, he ran towards the water with the boy in his hand. A man, surprised at his behaviour, stopt him there, took the boy from him, and tried to persuade him to leave the water; but he became angry, and answered, that he intended to take a walk, and asked, "Whether any body had a right to forbid him to do so?" The man left him, but took the boy along with him. An hour after, he was drawn out from the water, into which he had thrown himself, and taken to prison. As he still showed symptoms of insanity, he was bled and purged, and, two days after, was brought into the hospital, and committed to the care of my friend Dr. Wendt, who has perfectly cured him, and who kindly afforded me the opportunity to see and to speak with the patient.

He now very quietly tells the whole event himself, but is not able to explain the cause of the suddenly rising desire to kill himself and the boy, whom he loved heartily. This cause is only to be sought in congestions of blood to the brain, the same which before had caused his giddiness; and, whether we adopt an organ of destructiveness in the brain or not, it is to be assumed, that the propensity to kill himself and the son arose from a morbid excitation of a certain part of the brain. The disposition to congestion originated from a fall he suffered on the head in the year 1820.

We ask, whether any body in this case would have admitted responsibility of crime, if the patient really had executed his plan to murder the son?

In concluding, we beg permission to mention some very remarkable pathological phenomena in this man. Since he fell on his head in 1820, (on the right side of it,) all the *right* side of his body is become considerably leaner than the *left*; so that the *right* arm is not *half* so thick as the *left*; the *left* ribs are much less prominent than the *right* ones; and—what is still more remarkable—the whole *right* half part of the head is evidently less than the *left* one.—*Med. Chirurg. Review.*

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18. *Poisoning with Coal Gas.* (*Annales d'Hygiène Publique et de Médecine-Légale, Juillet* 1830.)—Repeated accidents have happened in Britain from the explosion of oil gas or coal gas; but, so far as we are aware, there has not yet been a single instance of poisoning or asphyxia produced by the incautious inhalation of it. There is every reason indeed to suppose that when inhaled in a moderately diluted state, it is a very feeble poison; and that when considerably diluted, it may be breathed habitually without danger and without inconvenience. An accident, however, has lately happened at Paris, which proves that there is a limit to the statement now made, and that the escape of a large quantity of gas into a house is attended with other risks—besides the chance of explosion from some fool walking into the contaminated apartment with a light to look for the cause of escape. In April last, five individuals in a warehouse in the Rue de Bussy at Paris, were more or less severely

affected, and one killed, in consequence of an accidental leak near the main stop-cock of the service-pipe. They went to bed about half-past ten; and about two, one of them who slept on the ground floor was awakened by the smell of the gas, and a sense of approaching stupor. He immediately alarmed his companions, who slept on various floors above, and found them all in a state of profound sleep, and when awake excessively lethargic. Of the five individuals, four recovered, and appear to have never been in great danger from the moment that they were freely bled from the arm. The fifth was heard moaning by the man who gave the alarm, and found insensible and incapable of being roused, with froth issuing from the mouth, vomiting, and spasmodic convulsions. A physician was immediately procured, who found all the symptoms of great oppression of the brain,—complete coma, froth at the mouth, redness of the face, stertorous respiration, and dilated pupils. An unsuccessful attempt was made to bleed him from the arm. Five-and-twenty leeches were then applied to each side of the neck; and as they filled, the wound in the vein of the arm began to bleed, while at the same time, the patient recovered his senses a little, and complained of being too soon awakened. His breathing, however, continued laborious, no further amendment took place, vomiting recurred between five and seven in the morning, and he died at eight, six hours after the alarm was given.

When the body was examined next day, putrefaction had just commenced. The limbs, however, were extremely rigid. There was a good deal of pale lividity on different parts. The countenance was pale and not bloated, and the lips were not discolored. The vessels of the dura mater discharged much blood when the skull-cap was removed; the vessels of the arachnoid were much gorged; and the substance of the brain presented an unusual number of red points when cut; but there was little serosity in the ventricles. The lungs were little distended, the left united to the pleura of the ribs by old adhesions, rather pale in color anteriorly, and not at all gorged. The right lung, on the contrary, was violet-colored, the edges of its lobules emphysematous, its substance red, gorged with blood, and yielding much froth when squeezed. The membrane of the windpipe was in general white, and contained a good deal of froth. In the right bronchial tube there was a French bean of ordinary size, entire, boiled, and which had evidently proceeded from the stomach. There was no particular appearance in the heart and great vessels, except that the blood was every where completely and firmly coagulated. The surface of the intestines was reddish. The stomach contained fragments of French beans, which the deceased had taken for supper. The liver had entirely changed its appearance, and acquired a greenish-slate color, and an unusually firm consistence.—It appears probable from the dissection and symptoms antecedent to death, that the fatal issue of the case was rather owing to the obstruction of the right lung by the bean, than to poisoning with the gas.—*Edinburgh Medical and Surgical Journal, for October.*

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19. *Restraint in Insanity.—Dr. Connolly.*—"In regard to the most trying and momentous of the duties of medical men in cases of doubtful insanity, the important point to be decided is not so much,—whether an individual comes under this or that definition, how precise soever it may be,—as whether the degree of insanity is sufficiently great to justify interdiction and confinement. For even among those who are undeniably insane, there are many who are very unfit objects for such treatment. In his chapter on the Applications of his inquiry to the Duties of Medical Men, as well as in other parts of his work, the author lays down these precepts with great precision and earnestness.

"In proceeding to give directions for enabling the practitioner to decide the question alluded to, with equity in respect to the patient, and safety in regard to himself,—the latter of which objects appears in the present day no easy matter to secure,—Dr. Connolly observes with great justice, that the embarrassment observed in the evidence of professional men on lunacy commissions, and the errors committed by them in granting certificates of insanity, have arisen in a great measure from the circumstance, that the law recognises, on the point of a man's capacity to discharge his social duties, no mean between complete liberty and absolute confinement, or between complete control over his property and absolute interdiction; and what is still worse, that on the article of confinement, no distinct mean is known between perfect liberty and *confinement in a lunatic asylum.* Every one who is acquainted with the varieties which occur among the insane and sound in mind, is aware, and any man of education who will take the trouble of perusing Dr. Connolly's work will perceive, that there are in the better ranks of society many persons standing on the boundary line between peculiarity of mind and lunacy, or weakness of mind and idiocy, and likewise even some persons undeniably insane to a certain degree—whom it would be impossible to leave in the uncontrolled possession of liberty and property, without the probability of ruin to their affairs and family, or of danger to their own lives and the lives of others,—and whom, nevertheless, it would be the height of injustice to restrain altogether from the use of their property, and to confine with lunatics, because such a procedure, besides depriving them of many pleasures which they might enjoy with safety to themselves, their property, and the persons and property of those around them, would almost infallibly aggravate and perpetuate the disorder of their mind, and so bring on a state of hopeless and extreme insanity. Such appears to have been the state of mind of the individuals whose cases have lately attracted so much attention in London, and entailed on the professional people connected with them so much obloquy and vexation. So far as a disinterested inquirer can discover amidst the prepossessions of the witnesses, and the prejudices manifested in the published reports, the state of mind of the alleged lunatics was such, that complete liberty and complete confinement or interdiction were equally unsuitable. If the public, who in the warmth of the moment took a very decided part in these cases, would now weigh the circumstances of each temperately, we are persuaded, that, like ourselves, they would consider it scarcely less reconcileable with a conscientious and skilful discharge of duty, that the physician consulted on the part of the relatives should pronounce on the side of insanity,—than that one consulted by an opposite party should decide that the mental aberration did not absolutely amount to insanity. But above all, we conceive it will be universally admitted, that the cases of Davies and some others would in all probability never have reached a court of law, or needed any interference of the kind, if the legislature had sanctioned for such persons some medium, as to the abridgment of liberty and use of property, short of absolute interdiction and confinement in a lunatic asylum. Some alteration of the kind must be introduced into the present statutes, otherwise the physician will in similar circumstances continue to labor under much embarrassment how to act; and we need scarcely add, that in consequence of the turn which the cases mentioned above have taken, the result of similar investigations in future will often be, that persons are left uncontrolled and at large who cannot long remain their own masters, without the strongest probability of ruin to their affairs, or of danger to their own persons or to society.

It may be asked what is the medium degree of restraint which would answer the purposes alluded to, and at the same time, be attainable in practice. But we conceive it would be absurd for any one to pretend to reply to this question, who is not well acquainted, not merely with the varying features of insanity, and the details of the present system of management in lunatic establishments, but likewise with the various legal rights, which every member of the community enjoys, and which must be to a certain degree respected in providing for the care and protection of those laboring under the slighter forms of insanity. In the mean time, however, Dr. Connolly has thrown out a few suggestions on the subject, some of which are obviously both important and easy of attainment. We must refer the reader for the particulars to his work; but, before taking leave of him, will allude shortly to one of his proposals.

There are, according to Dr. Connolly, three classes of the unsound in mind, whom confinement in lunatic asylums, as at present conducted, will in general injure rather than benefit;—those who labor under mere peculiarity or weakness of mind, and the lower degrees of insanity,—those affected with most forms of symptomatic insanity, especially puerperal mania,—and convalescents of every denomination. In the case of all such persons he maintains, and we imagine few will deny, that confinement with other lunatics, however carefully classified, will retard the cure, and diminish the chance of recovery; and besides, in the case of the first class, or the imperfectly insane, confinement of so rigorous a kind, as we have already observed, is altogether iniquitous. Such persons then ought never to be inmates of a general lunatic asylum; and yet it may be often desirable to impose some restraint, or in other instances to break the morbid association, the cause of the mental disorder, by removing them from their own homes. We presume it is chiefly to secure the proper management of patients of this kind, that the author proposes to attach to every public asylum a certain number of smaller houses in its neighborhood, for the reception of one or two persons, where the degree of restraint may be regulated according to circumstances, or watching substituted for restraint, and where each individual may be entirely cut off from the society of other lunatics. A provision of this nature would be of incalculable advantage to all cases of curable insanity among the better ranks, but more particularly to the inferior degrees of it, which border on mere peculiarity or weakness."—*Ibid.*

MISCELLANEOUS.

20. *Cases at the Hotel-Dieu, received during the "three days."*—"A soldier of the Royal Guards received a shot a little above the temporal extremity of the eyebrow; the ball having traversed the skin and temporal muscle, glided along the skull in a semicircular direction till it came behind the ear, where it stopped; it was extracted by means of an incision. The patient went on very well, till all at once hæmorrhage took place from the temporal artery, which was, however, soon arrested by the ligature; this patient is now recovered.—A pupil of the Polytechnic School was stabbed in the right eye; the instrument pierced the orbit and perforated the brain in its whole length, and of course produced immediate death.—A deaf and dumb person, about 34 years of age, who had taken a very active part in the fighting, was brought to the hospital, covered with wounds, and lacerated in the most pitiful manner; there was a penetrating wound at the temporal region of the skull, and there was evidently a lesion of the brain; he was largely bled, and went on favorably, when, secondary encephalitis acceded, and carried him off in a few days.—A citizen received a ball on the forehead; he was brought to the hospital in a state of insensibility; the skin was found lacerated, but there was no fracture; when he recovered his senses, he was quite blind, and it was only after a few days, that the right eye became sensible of light; the vision of both eyes was gradually but completely restored.—One fracture only of the clavicle was observed, from a blow with a musket, and curiously enough it was in a citizen who had recently been discharged from the Hotel-Dieu, after recovery from a fracture of the clavicle of the other side.—Two exarticulations of the upper arm were made with suc-

cess; a third case proved fatal, probably only because the patient objected to the operation being performed immediately after the accident.—A few severe cases of burns were also admitted. Some citizens had taken possession of a cannon, which they directed against the enemy, but in the heat of the moment, they had put the ball behind the powder; the cannon was accordingly turned, and the powder was scattered over the pavement; the ball also fell on the stones, and unfortunately caused a spark, by which the powder took fire and burnt five or six individuals.—A young man with his pocket filled with cartridges, had a pistol discharged close to him, so that they took fire, and he was in one moment burnt from head to foot. None of these burns were fatal.—One case of amputation of the index of the left hand proved fatal, in consequence of nervous symptoms supervening, which were probably caused by a violent emotion of mind.—In two cases both thighs had been traversed by the same ball without producing fracture, and in one the ball had even perforated both legs without even any lesion of the bone.—One case of tetanus only was observed, in a patient with penetrating wound of the chest; it seems that it was principally caused by the frequent discharges of muskets and pistols, which continued for a considerable time after the fighting had ceased. Several cases were observed, in which the ball had passed through the neck without injury to any important organs, and some of them were speedily cured; some, however, proved fatal by hæmorrhage, as was the case in a young man who had been shot through the neck, and was in a fair way of recovering, when, on the 12th day, hæmorrhage occurred, and carried him off within a few hours.—A boy of 17 received a large wound at the left side, immediately above the heart; the ball, after having broken a rib, traversed the lung and the scapula, and he was apparently in a dying state when he was admitted at the hospital; reaction, however, soon took place, and it is hoped that he will recover.—A voltigeur received a musket-ball on the occiput; though it came in an oblique direction, it fractured and depressed the skull, and such was its force, that it was almost divided into two parts, one half having entered the cerebellum and the other remaining outside; it was very firm, and it required a great effort to detach it; the patient died on the second day.—A young girl, whilst looking out of a window on the fifth story, received a ball in the breast, after it had penetrated the chest of a man before her; happily she was thickly clothed, else the ball would have entered the chest; it had been fired at the distance of about 60 paces.—A soldier of the Guard, was shot in the hypogastric region; the neck of the bladder was wounded, and the ball entered a little above the anus; the os pubis was fractured. Notwithstanding the extent and the nature of the wound, the patient lived till the 30th day, when he died of inflammation."

With respect to the situation and effects of the wounds, there were observed to be,—

		FATAL.
Wounds of the head	20	13
—— face	17	5
—— neck	6	3
—— chest	20	10
—— abdomen	21	14
—— pelvis	21	9
Fractures of long bones	78	45
Wounds of the thigh	30	0
—— knee	6	0
—— leg	14	0
—— foot	10	0
—— shoulder	9	0
—— upper-arm	8	0
—— fore-arm	6	0
—— elbow	3	0
—— hand	5	0
	274	99

Besides the above number, eleven citizens died almost immediately after admission, and there wounds were not specified. The total number of deaths is stated to have been 122, (which, however, does not accord with the above,) 40 of whom, at least, did not admit of surgical treatment. Of the 91 wounds of the extremities without fractures none proved fatal, and it was peculiarly fortunate, that there were no penetrating wounds of the joints among them. The other wounds, which are not entered in the above list, were comparatively slight. At the end of September, there were but twenty wounded left; the greater number of convalescents having been sent to St. Cloud, where the barracks of the Gardes du Corps had been appropriated for that purpose.—*London Lancet.*

COMMUNICATION.

If the insertion of the following, be thought to give an undue importance, both to the writer and the subject of his communication; or if we be deemed culpable in affording Dr. Avery an opportunity of injuring himself in the opinion of every honorable man,—we must apologize to our readers, by merely observing, that some circumstances seemed to make it necessary. When we entered upon our duty as editors, we were well aware, that if impartiality and the open expression of opinion were maintained by us, the consequence was likely to follow, that we should be annoyed by the petty ebullitions of offended vanity, or the revenge of disappointed self-love. Against these obstacles, we were prepared to oppose a sovereign contempt. We expected occasionally to be

——" hawk'd at by mousing owls;'

but self-respect was the armor of defence upon which we were determined to rely. Now, this is just the position in which we wish to stand at present, and therefore, if Dr. Avery from offence at any remark of ours, or for the sake of notoriety, has for a moment indulged an expectation of drawing us into a controversy, we at once inform him of his mistake. This, however, shall not prevent us from pointing out some wilful perversions of our language, that will show, not only how ingeniously Dr. Avery can disjoint sentences to suit his views, but that the whole communication, as we believe, is written merely *for effect.* Having made some notes in passing along, we shall then for ever drop both the author and his book, and hereafter close our pages against any thing written in the spirit of his strictures upon our review. We can have no objection to a *gentlemanly* controversy upon medical subjects, in which we are sure our readers will feel interested; but to be loaded with abusive epithets, and to pay the printer besides for publishing them, is rather more than even Dr. Avery ought to expect from us. Hard names we can pass over, knowing that they return, with more than their intended odium, upon the bestower of them; but the pecuniary cost of them is an object of more moment to us.

We now give place to the communication, first remarking, however, that we are not to be diverted from our course, by the puerilities of witless ridicule, or the hypercriticism of pedantry; but that, supported by the liberal and the honorable in the profession, we shall repay their confidence, by prosecuting our labors fearlessly, decidedly and perseveringly. To the best of our abilities we shall mete out credit where it is due; we shall acknowledge our respect for talent, wherever it is exhibited, and continue to expose the trickery of authorship, when the motive of publication is evident;—and if in performing the last task, we draw down upon our heads the petty spitefulness of wounded vanity, why we can only say—

"Let the galled jade wince."

To the Editors of the New-York Medical Journal.

GENTLEMEN,—

On first looking over the notice which has been taken of the Dyspeptic's Monitor in the first number of your journal, I determined not to reply to it, as it appeared to carry its own commentary legibly written on the face of it. But after further reflection it struck me, that this very *classical* and ingenious composition, so rich in *fanciful allusions* and *logical deductions*, might be more interesting to your readers, if its leading features, (I had almost said leading faults,—for most great productions, as well as most great men, have some faults, "nullum magnum ingenium sine mixtura dementiæ,") were more clearly pointed out.

In the first place, I shall notice the reviewer's indiscriminate denunciation of all works on medical subjects intended expressly for the general reader—an echo, of the opinions of some other very learned reviewers. The arguments, which he employs against the utility of such works, are based upon the *liberal principle* so long and so zealously advocated by the supporters of the Romish faith,—that there are *truths*, a general knowledge of which would be dangerous to the happiness of mankind,—that they can only be safely intrusted to a select few, who are in due form made acquainted with them, and should be carefully concealed from the rest of their fellow creatures, lest they should misconstrue them, or be made in some way miserable by them. This doctrine, may well answer for the atmosphere of the Holy Inquisition, but will not be found altogether so suitable for a free and enlightened country, like our own. "In fact," says an elegant writer, "it is a singular presumption in some individuals, to believe that they have the right to conceal the truth from their equals, and to attribute to themselves the prerogative of placing themselves, like Alexander before Diogenes, to conceal from us the rays of that sun, which belong equally to all. This pretended prudence, is nothing but the theory of charlatanry."*

But to come more directly to our object, I would inquire, whether these are undoubted truths? viz.: that drunkenness may produce delirium tremens,—that gluttony may produce apoplexy—opium eating, fatuity—residing near a marsh, fever and ague—indulgence in unripe fruits—disorders of the bowels, and improper exposure to the weather, diseases of the chest? If so, they are not private, but public property, and the hardy husbandman, and industrious mechanic have as good a right to them as the physician. But I go further; one man has as good a right as another, to a knowledge not only of the simple facts that the above causes may produce their corresponding effects,—but to the *quo modo*, the manner in which they produce these effects.(a) Now look at the daily practice of almost any one of our most eminent physicians. If consulted by an intelligent person, for any particular complaint, he not only informs him of its cause, and the remedy necessary for its cure, but, often explains to him its nature, the mode of operation of the remedy, and his reasons for prescribing it. All this is very well. This is *secundum artem.*—But mark the consistency of human nature; if a physician writes a book upon any particular disease, without cautiously loading it with the shackles of Greek and Latin derivations, and learnedly mistifying it with the jargon of the schools; in other words, if he writes in plain English, so that most persons of tolerable education may understand, and says frankly, I do this for the general reader, a hue and cry is instantly raised against him, by some reviewer of "pretended prudence," for writing a popular book,—his motives are very modestly called in question, and his style pronounced to be "garrulous." Like the Romish priest, he may read the writings of the fathers of his art, and orally dispense to the laity such portions of them as he pleases, with his own explanations, but to publish any part of them, in an intelligible form, is to make known, "les vérités dangereuses," and denounced as heresy. Is the science of medicine a liberal science, governed by the laws of philosophy, and resting upon established principles? The more generally then it is known, the more it must be respected. Present it stript of its mystic covering, to the intellectual part of the community, and the consequence will be, an increased confidence in its powers, and a greater veneration for its successful cultivators. In our own country, at the present day, learning in all its branches is very generally diffused, and all classes exercise the undoubted right of reading and thinking for themselves. In order, therefore, to obtain their confidence, you must address their reason; you must give them a rational explanation of any fact you wish them to believe.

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* En effect, c'est une singuliére présomption dans quelques individus, de se croire le droit de cacher la vérité à leurs semblables, et de s'attribuer la prérogative, de se placer comme Alexandre devant Diogéne, pour nous dérober les rayons, de ce soleil qui appartient à tous également—cette prudence prétendue n'est que la théorie du charlatanisme.—Madame de Staël.

By these remarks, I would not be understood to intimate, that every man may become his own physician; on the contrary, this requires the undivided attention of one's whole life. But as a knowledge, (to a certain extent,) of the laws of natural philosophy, chemistry and astronomy, now constitutes a part of every tolerable education, so the principles of medicine (I refer particularly to the nature and causes of common diseases) may, to a certain extent, be acquired by those, who choose to give themselves the trouble. The knowledge of the former does not make adepts in the sciences, neither will that of the latter make physicians. Now, what is the effect of a certain acquaintance with the principles of medicine, as we often find it among the gentlemen of the bar, the clergy, and many other persons of liberal education? Is it "a positive evil," "a knowledge the possession of which is wo?" Certainly not, so far as I have observed. But this one effect it unquestionably has; it enables them to distinguish between the scientific practitioner and the empiric; and if I am not much mistaken, these are the persons above all others, who least often tamper with medicines themselves, and when they are ill, are our most reasonable and obedient patients. Where is the respectable physician, who will not admit, that he had rather attend ten such patients, than one ignorant person, against whose superstition, whims and prejudices, he must wage a continual warfare.

(a) This sounds very much like some remarks upon Wilson Philip, on "Diseases preceding change of Structure," in Johnson's Med. Chir. Rev.—"*A physician may now, as did Hippocrates of old, write popularly on various points of hygiene, such as the salubrity or insalubrity of the air we breathe, the food we eat, the water we drink, the raiment we wear, the avocations we pursue, &c. These are subjects in which all are concerned, and which all may study;*"—Dr. Avery, we know, is particularly fond of the authority of Johnson; and he must have noticed the conclusion, which is the best part of the paragraph, "but if a physician writes a treatise on the nature, causes and treatment of the brain, heart, the lungs, the liver and the stomach, and tells the general reader, that he has rendered *all* that is in his book perfectly comprehensible by him, without the labors of the dissecting room, and the bad air of hospitals, then we say, that the physician who believes he can do what he promises, must be insane; if he do not believe it, he is, to say the least, disingenuous! But we do not think Dr. Philip is either insane or knavish, he is only very CUNNING."

That the reading part of mankind may be sufficiently instructed in the nature, causes and symptoms of diseases, to enable them to do much toward preserving their own health, by avoiding the causes that impair it, and to recognise the advances of disease in time to obtain seasonable medical assistance, has been the opinion of many distinguished physicians, and has given rise to a variety of medical publications, intended expressly for the general reader. The mention of two or three instances of this sort may suffice. Dr. Thomas, author of a well known system of practice of physic, for many years an approved text book in this country, and Dr. David Hosack, (a name that Americans may enrol with pride among their most talented and successful physicians,) have not thought it unworthy of them, to attach their names to a work entitled, Domestic Medicine; and Dr. A. P. Wilson Philip, author of several works of acknowledged merit, has also devoted a portion of his labors to the instruction of the general reader.

The great prevalence in this country of those derangements of the digestive organs, commonly included in the broad term dyspepsia, and the imperfect idea which most persons (out of the profession) have of the nature, but more especially, of the causes of these derangements, led me to believe that I might render an essential service to the public, by writing a simple and compendious treatise on the subject;—a task, which several years personal suffering from dyspepsia, ought to enable me to perform *cæteris paribus* better than those who have not had this kind of experience. Another strong inducement was, the hope of rescuing, in some measure, the dyspeptic invalid from the ridicule of uncharitable friends, by giving them some idea of his actual condition. I endeavored to give a tolerably distinct conception of the healthy digestive process; to point out the symptoms produced by its derangement—the causes of derangement, and their *modus operandi;*—finally, to show the importance of strict temperance and a regulated diet, in restoring these organs to a healthy state. I studied to address myself to the common sense of my readers; to explain every thing, as far as possible, upon philosophical principles, and to couch the whole in language at once familiar and intelligible. Whether I have succeeded, is for others to decide. That I had no expectation of my little work's becoming "a profitable species of authorship," (R. p. 169,) will be evident, from the fact, that when I showed Mr. Bliss (the publisher) the manuscript, I offered to give him the copy-right, if he would let me have a sufficient number of copies to distribute among my friends. He was unwilling to promise me any specific number, and I defrayed the expenses of publication myself.(*b.*)

(*b.*) It is singular, that any man not totally blinded by the most consummate vanity, should repeat such stale protestations of disinterestedness. Is it really supposed that any one possessed of even a tithe of common sense, will be deceived by this twattle? Why, it is only a parallel of a "salus populi suprema lex" advertisement. This is the more palpable, from a comparison of the very language.—"*Personal suffering*" has the same motive in being obtruded upon the public, as "*professional experience for* 34 *years,*" &c.

We are told, "that it is not a *few* who are made miserable by the diffusion of knowledge of this kind;—it is the many,—it is the majority of all who peruse even his work." (P. 185.) Now, I would ask, what classes of the community are most subject to dyspepsia, and most likely to read a treatise upon it? The laboring classes, or those composed of professional men, intelligent merchants, and persons more or less acquainted with literature in general? And is the majority of all these (who read such a book) "made miserable by the diffusion of knowledge of this kind?" I leave others to determine whether this statement is founded on facts, or is entirely the production of the diseased imagination of the reviewer. The idea of concealing from such persons the simple truths,—that intemperate eating and drinking will produce disease, and that a return to temperance, if not too long delayed, will again restore health,—lest they should be "made miserable, by a diffusion of knowledge of this kind," is not less absurd, than that of confining the reading of the Scriptures to the clergy, in order to prevent the laity from becoming acquainted with "les verités dangereuses."

Before going farther, it may be well to inquire, whether the malady called dyspepsia, is real or altogether imaginary? The reviewer tells us, that "It would be a notable evidence of inexperience, to deny the existence of such a disease as dyspepsia;" and almost in the same breath declares, that—"for ourselves, we do believe, that a large proportion of the cases met with, are, in reality, either imaginary ones, or incomprehensible affectations of what is considered an evidence of fashion and refined ease." (Pp. 170, 171.) Really this does great credit to the reviewer's superior penetration as a physician; and to his charitable sentiments towards a very large number of his fellow creatures. To me, I confess, the idea is not a little novel;—that the scholar, whose reputation depends upon the prosecution of his studies;—the merchant, absorbed in schemes for acquiring wealth; and the professional man, who can only expect success from incessant application to his several duties,—will affect headach and heart-burn, extreme emaciation, and a sallow complexion,—deprive themselves of the innumerable gratifications of the table—the rich pastry, the racy wine, the palatable ragout, the inviting sauce;—consent to swallow the most nauseous drugs, and often sacrifice all their accustomed pleasures and pursuits, for "what is considered an evidence of fashion and refined ease." Indeed, I cannot but look upon this as an important discovery of the reviewer; for which not only the medical profession, but the world at large, must be vastly indebted to him; and which, in justice, ought to be ranked with that equally valuable discovery of a certain well known very learned society, viz.,

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(EVANS' ADVERTISEMENT.)—"*Rescuing in some measure the dyspeptic invalid,*" &c., runs parallel with "*established to prevent quackery, and abuse of mercury.*"—And "*to show the importance of strict temperance,* &c., *in restoring these organs to a healthy state,*" &c. is admirably equalled by "A SMALL BOOK OF DIRECTIONS, *in which the symptoms and treatment are so accurately pointed out, with such brevity and accuracy, that every person may in this case become his own physician.*"—(Evans.) The gentleman very innocently disclaims any thing like profit; "advice gratis;" "no charge for consulation," are equally divested of any connexion with pecuniary advantage. Finally, we have the name of Mr. E. Bliss given to us as the publisher,—where the 2d edition of the "Monitor," we will inform the public, may be had, though in a somewhat dusty condition, we suspect, from the vicinity of its successful rival, "Halsted on Dyspepsia."

the elephant in the moon. Much in unison with the foregoing opinion, is that contained in the following sentence, if I rightly understand its meaning.—"The hypochondriac is truly an object of pity; but that fictitious disease should become fashionable,—be made a patrician affectation,—is really unaccountable; yet who has not met with such disgusting folly?" (P. 171.). What, will men seclude themselves from the rational pleasures of life; spend their days and nights in brooding over imaginary evils, or in gloomy bodings of some overwhelming calamity; render their families and friends unspeakably wretched, and finish the drama by blowing out their own brains, and all for the sake of indulging "a fictitious disease" "a patrician affectation?" or has the inventive genius of the reviewer been at work here again?

The reviewer is much dissatisfied with what I have considered the most frequent causes of dyspepsia, viz., too much rich food in persons of inactive lives, climate, habits, and mode of living, grief, disappointment, &c.; and informs us that, "too much consequence has been given to the *dissipations** of fashionable life." He says, "we cannot submit our judgment to any opinion of this kind, nor to that which would make our *generous mode of living principally productive* of the malady in question."(*c*) (P. 174.) This is really

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* I have taken the liberty of putting certain words and sentences in my quotations from the Review in italics, that they might be more easily referred to.

(*c*.) We pass over the "novel ideas" which he has gained from some observations of ours. We can assure *our readers* that they are as novel to us; but Doctor Avery is quite an adept in conjuring up phantoms to point his lance against; it may be a suitable occupation for *him*, and we would not in the least interfere with his puppet exhibitions. We, however, do protest against the shameful distortion of our words to suit his purpose, in this amusement. It is difficult to conceive of the degree of base assurance that could permit any one, not insane, to present to the writer of an article such a mangled quotation of his language, as the one given above. Really the construction of such a person's mind is above our comprehension; but if Dr. Avery is susceptible of the least feeling of shame, we should think that henceforward the face of every honest man would cause him to hide his "diminished head" in worse than Cimmerian obscurity.

With *apparent* honesty, the extract appears to be given from page 174; this is true as to the last part, but "dissipations," &c., will be found at 172, connected with an entirely different part of the subject. We will be excused for presenting the true reading. "Upon what circumstances, then, is the disease consequent, and who are the real sufferers? For a proper consideration of these inquiries, the diverse modifications of functional derangements, which have been made to assume the name of dyspepsia, should first be discussed. Divesting it, by these means, of the numerous disorders, as gout, gravel, rheumatism, phthisis, &c., with which it has been complicated, an essential character would be given to it, and its remote and proximate causes be more readily understood. An investigation so extended would not comport with our original plan, or, in-consoling to the lover of good eating and drinking. But if the "dissipation of fashionable life," and indulgence in the pleasures of the table, have little or nothing to do,—if they are not in an immense proportion of cases *fons et origo mali*,—Abernethy, Philip, and Johnson, in a word, nearly all the distinguished medical men of the present day, are groping in darkness as it respects the etiology of dyspepsia, and will probably continue to do so till their minds are illuminated by our American *new light*. As a proof of the correctness of his statements, he mentions the first settlers of our city, (who were, doubtless, a very healthy race,) and says, "It was their dress, always profuse, and of the firmest texture; their *quiet, unambitious lives; their constitutional phlegm and inappetency for mental labors*, that insured them a freedom from its complicated horrors." (P. 174.) But how does this apply to the present generation, which cannot boast of altogether such "*unambitious lives*," or precisely the same quantity of "*constitutional phlegm, and inappetency for mental labors*," which characterized the worthy Netherlanders? We are more choleric—our passions are not as governable—our blood does not pursue the even tenor of its way as did theirs; our mental powers are much more cultivated, and our corporal much less so than theirs. Luxury, refinement, and a great variety of mental causes, have unquestionably rendered our systems comparatively weak and irritable. Is it surprising, then, that the rich fare which was wholesome for them, should prove injurious to us?

It is no new doctrine, that free living is destructive of health; the ancients

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deed, be in place; we may, therefore, only incidentally observe that, first, too much consequence has been given to the dissipations of fashionable life, as a powerful cause of this disease; and, secondly, that it very rarely assumes its genuine form, from mere animalism, or the epicurean enjoyment of food."

The last part of the quotation is connected with our notice of that most ridiculous of all assertions—that two thirds of all the inflammatory and febrile diseases are occasioned by causes, not serious in themselves, operating upon systems susceptible of diseased action, from being overcharged with stimulating and nutritious matter. We assured our author that there were such things as climate, soil, changes of weather, &c., which were generally considered as very serious causes of disease; and that even in cities, there were other causes besides eating; and gave our fore-fathers as an instance of the comparative immunity from sickness, where rich and abundant fare was indulged in. We then say: that in *this last fact* there was an illustration of the incorrectness of what Dr. A. asserts in another place, *that England is more favorable to strong stomachs, than our own climate*. Then comes the remark, so criminally perverted from its intended meaning: "We cannot submit our judgment to any opinion of *this* kind," viz., "that England," &c.

We cannot consent to ask Dr. Avery's attention to what we have here explained,—for we make no explanations to him;—but we do ask our readers to form their honest opinion of a man that can stoop to such degrading means, in gratifying his inordinate vanity as a writer, and his love of notoriety, which would madly urge him on, even though it were to be

—— "*damned* to eternal fame."

declared that it killed more than the sword—plures crapula quam gladius. Avicenna says, that there is nothing worse than too great a variety of food, or the repast protracted too long.—"Nihil deterius quam si tempus justo longius comedendo protrahatur et varia ciborum genera conjungantur inde morborum scaturigo quæ ex repugnantia humorum oritur." Juvenal says of the same things, "hinc subitæ mortes atque intestata senectus." Pliny approved of a simple diet, and declared a variety of dishes and rich sauces to be the fruitful sources of disease: "Homini cibus utilissimus simplex—acervatio ciborum pestifera et condimenta perniciosa, multos morbos multa fercula ferunt." Burton (Anat. of Melan.) says, in the words of Fernelius, "this diet is the mother of diseases, let the father be what he will." I deem no apology necessary for copying the above quotations of Avicenna, Juvenal, and Pliny, from Burton's Anat. of Melan., a work abounding in extracts from ancient authors.

It would be utterly impossible to do *full justice* to all the *interesting* passages in this part of the review, (pp. 173, 174, 175,) without passing the ordinary limits of a paper of this sort; I will, therefore, enter at once upon an examination of the reviewer's observations on the effects of *diet*. After a long quotation from my remarks on the suitableness of different articles of food for acid stomachs, in which I have mentioned the effects of meat, tea, coffee, wine, milk, bread, &c., on myself and others, and have quoted the opinions of Paris, and the experiments of Tiedemann, and Gmelin; the reviewer says, "Now, in the first place, we object to this application of the results of experiments made on the digestive organs of dogs, or other animals, for the purpose of proving the powers of the human stomach. It is *brutalizing* it—*reducing it to the filthy disposition of 'returning to its vomit.' More practical and satisfactory means of observation and experience, are abundant.*" (P. 176.) To what, I would ask, do these remarks, so replete with *agreeable* allusions, refer? Does the reviewer imagine from my words, "subsequent experience in the cases of others," that I have subjected animals to vivisection, for the purpose of studying their digestion? If so, his zeal "in the performance of a duty" *he owes to his "readers and the profession,"* has led him into a *trifling error*.(*d*) Or is it against the elaborate, (and to ordinary minds,) the satisfactory experiments of Tiedemann and Gmelin that, like the redoubted Knight of La Mancha, he so gallantly couches his lance? If so, it is truly unfortunate for the cause of science, that the faculty of Paris did not possess a sufficiency of his professional-learning and acumen, to withhold from those very experimenters the prize which was awarded for their labors. Had that (commonly reputed) learned body known (as our oracle *condescends* to inform us, without intimating where they are to be found,) that "*more practical and satisfactory means of observation and experience are abundant,*" it might have kept its money for a better purpose.

"The objection that we make to the doctrines just quoted," continues the reviewer, "is their *proscription of animal diet*, and the neglect of certain principles connected with the digestibility of our food. *It is not the quality of the article eaten, that is to govern us invariably in its choice: good digestion depends almost as much upon the gratification afforded by our food,—the healthful feeling of satisfaction, which pervades the whole system after eating, as upon the quantity of nutriment which such articles contain.*" And again: "*The question of digestibility or indigestibility, then, does not depend upon the quality of the food, whether it be animal or vegetable, solid or fluid.*" Plumb pud-

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(*d*) As daring as Dr. Avery may be in *cutting up* language, we do not suspect him of the "vivisection" of animals; we cannot suppose that he really understood us so, but the notice of our remark afforded him an opportunity of introducing "subsequent experience," which he readily seizes upon—"*ad captandum.*"

ding, then, is as digestible as pap; roast pork and lobster, as the breast of a chicken; and Welch rabbit, as a soft boiled egg? But I proceed: "Prejudice does not lead us into commendation of animal food; but we believe it to be a *necessary stimulus,—abstinence from which would be productive of much harm. Man is not an herbivorous nor a graminivorous animal; his dental formation* characterizes him differently. This is an indication, not merely for his convenience, but for his actual government, and should never be placed out of sight; it is essential to his well-being, that every such fact should remain unperverted by speculation. Dependent upon this, it must rationally be concluded, that *a meat diet (combined with that from the vegetable kingdom) is absolutely required for the sustenance of his active energies, for the complete elaboration of that degree of perfectibility which his physical and intellectual formation is capable of attaining*." "If, therefore, (*as is the truth,*) *meat is required for the support of animal vigor, its stimulus must be healthful, unless*, as in every other case, it be carried to excess." (Pp. 176, 177, 178.)

May I be allowed to inquire, whether the reviewer intended these remarks to be applied to man in the full enjoyment of health, surrounded by a pure atmosphere, and constantly employing his physical and mental powers, in the manner nature intended? to the dyspeptic? or to those most liable to become dyspeptic?—If to the first, I cannot conceive what bearing they have upon the book in question. For, to the best of my knowledge, no part of it can be justly construed into an objection to the use of a reasonable quantity of animal food, by the laboring classes, or those engaged in active pursuits.

If to the dyspeptic, I would ask whether he is actually in a state of health, or disease? If in a state of disease, and no attention to the quality of his food is necessary, Hippocrates, and all who have written on medicine since his time, (saving and excepting the learned reviewer,) have been grossly mistaken.

Did the limits of this paper permit, it would give me much pleasure, to lay before my medical brethren a considerable number of facts, in support of the opinions I have advocated, (in the work which has called forth the talents of the reviewer,) respecting the propriety of animal food, in the various derangements of the digestive organs; but at present, I shall confine myself to the following remarks, and I appeal to the careful and unprejudiced observation of an enlightened profession, for their accuracy.

1st. In the most severe cases of habitual acidity, the painful sense of soreness or gnawing in the stomach, eructations of an acid fluid, thirst and dull headach, are invariably aggravated, one, two, or three hours after taking stimulating drinks, as wine, strong coffee and tea—and stimulating and indigestible food, as rich soup, mince pie and sausages. From these facts, it may be reasonably inferred, that the digestive organs are in an irritable state, and the least stimulating and most readily digested food, will agree with them best. In proof of the correctness of these inferences, I could give numerous cases, in which the foregoing symptoms in a great measure subsided in a few days, by subsisting entirely on bread, milk, rice, &c. when the uneasiness in the stomach, (often compared to a hard body in contact with a raw surface,) disposition to eructate, and thirst, had been invariably experienced two or three hours after a very moderate meal of animal food.

2d. When the liver is the organ principally deranged, marked by an habitually sallow, rough and dry skin—coated tongue and torpid bowels—the invariable effects of wine and porter are, flushed face, hot skin, quick pulse, thirst, disinclination to exercise, and drowsiness. Precisely the same effects are produced by a meal of animal food. It is a fair conclusion, then, that if the first are hurtful, the second cannot be harmless—and here again, I could give numerous cases in which all the above symptoms have been entirely removed, by subsisting on light farinaceous articles, as gruel, arrowroot, bread, &c., together with the use of medicines, which had given no permanent relief, with a more stimulating diet.

But are the reviewer's remarks intended for the class of persons, most likely to become dyspeptic? To him, who seldom employs the locomotive powers nature has given him—who turns night into day, and day into night—who habitually breathes the contaminated air of confined apartments—whose mind, perpetually upon the rack, is perpetually interfering with the functions of the body—or whose system is daily shook to the very centre, by the rude impulse of unbridled passion? Is there no difference between this morbidly sensitive being—this hot-house plant—this violater of every law of nature—and active, unsophisticated, rational man? In many respects, he is not the same animal—he is the creature of acquired habits—consuetudo altera natura—whose mental and physical powers, from cultivation of the one, and neglect of the other, bear no proportion to each other, and whose susceptibilities are as widely different, as the capabilities of their muscular systems. Then where is the force of all this fine reasoning about "*meat" as a* "*support" for* "*animal vigor,*" "*healthful stimulus,*" "*dental formation,*" "*herbivorous*" and "*graminivorous,*" "*sustenance of*" "*active energies,*" *&c.?*

That a general use of animal food is improper for dyspeptics, is no new doctrine. Varandæius, who wrote about the end of the 16th century, and who appears to have taken Hippocrates and Galen for his guides, gives a very accurate description of most of the symptoms of dyspepsia, and says of diet, "Diæta igitur, primarium hic locum obtinere videtur utpote quæ sola vitiare aut restituere potest hanc actionem." He gives a list of the different articles of food, which he considers hurtful, in which he includes pork, beef, mutton, and all fat or crude substances ; "propterea abstinere debet," says he, "carnibus suillis, bubulis, caprinis, ovillis, caprillis et similibus, potissimum sale aut fumo induratis—piscibus omnibus—præcipæ cetacei—et viscosâ substantiâ praeditis." (P. 194, Opera Joannis Varandæi.) Burton declares beef to be unwholesome for those who lead an inactive life, and quotes Galen's words, "Tales de facili melancholicis ægritudinibus capiuntur." "Pork," he says, "of all meats is most nutritious in its own nature, but altogether unfit for such as live at ease, or are any ways unsound of body or mind." He considers nutritious food for invalids to be decidedly hurtful, and quotes Hippocrates, "impure bodies, the more they are nourished, the more they are hurt." I cite these ancient writers, because their opinions in matters of this sort, were drawn from a patient observance of cause and effect—and have received the approbation of succeeding ages. The quotations which might be made from modern authorities on this subject, would fill volumes.

I come now to an examination of a part of this review, which appears to place the writer's accuracy of observation, and the fairness of his reasonings, in rather a conspicuous light—I refer to his remarks upon the diet and character of different nations. He says, "Before bringing this subject to a close, we would notice a popular argument, quoted in the work before us, and which we have heard not unfrequently made use of, in which the *character of nations is contrasted, and the advantage awarded in favor of the millions in Asia, Italy, and the South of Europe*, who live on rice, corn, lettuce, and oil, and of the Lazzaroni of Naples, who chiefly rely on corn, bread, and potatoes. There is more sophistry than real argument in this. Now where, we would ask, can there be found more debased, perfidious and imbecile specimens of human nature, than among these very millions of beings?" "We would ask our readers to *compare the inhabitant of Italy of the present day, fed on oil and lettuce, with his refined and courageous ancestor.*" After further remarks on Italy, "in its earlier ages," he says, "What now is Rome?" and next lays "impotency and baseness," to the charge of the whole Asiatic population; winding up with this statement:—"*The Spaniard and Portuguese find but a miserable return for their abstinence, in a* loss of all that ennobled their former character,—all that made the *age of Ferdinand and Isabella, and of John*, the *model of chivalrous enterprise,—of dignity and learning*. Their glory has fled," &c. Again we are introduced to the Lazzaroni of Naples; and lastly, to the inhabitants of Northern latitudes. The reviewer then says, "It would be an interesting investigation, to pursue this subject to its full extent;—the result we can anticipate;—and let us not be *called visionaries, if we say, that with some few exceptions, all moral vigor, philosophical research, and the prevalence of science, would be found to be connected with indulgence in the use of* *solid and stimulating food, and the discriminating enjoyments of whatever may gratify the taste or appetite.*" England and Germany are mentioned as proof of this position, and we are told that, "in modern *history, nearly all that is rich in the improvements and dissemination of religion, philosophy, arts and sciences, has emanated from Great Britain, Germany, and Holland. France, more fastidious in her enjoyments, has indeed had her Bonaparte, La Place and Cuvier, but the general character of her population is incomparably inferior to that of the former countries, in the respects of which we have spoken.*" Our own country is next brought forward, to show how fully "the moral and physical capacities of man" can be "developed" by good eating; and then the reviewer says: "*This may be called a fanciful speculation, but we* have a *confidence* in the truth of what we have adduced, and are, at least, *assured*" (modest assurance) "that it must be convictive of the sophistry of the argument which our author has so vauntingly adopted. The dietetic system-maker, and he, who in his enthusiasm would enforce abstinence on mankind, even to the adoption of the scanty and ungenerous repast of a troglodyte, may also find an argument in these facts, that any other rule of diet than simplicity in preparation, and moderation in eating, is contradictory to the absolute demands of our nature, and that in a *deprivation of the invigorating stimulus of animal food, and the liberal indulgence of our taste*,—the calls of a well regulated appetite, and the occasional and *restricted festivities of the table,—man becomes enervated, his generous spirit is debased, his ambition subdued, his resistance to oppression enfeebled or totally lost, his whole intellectual and physical energy is impaired, and even his morals become depraved.*" "Original capacities we would by no means overlook, but we do say, that as *the forcible evidences of mind, and its progressive improvement, are dependant upon physical energy*, any circumstances calculated to enfeeble the latter, by a *deprivation of the peculiar nutriment and stimulus already mentioned*, must, in proportion to that deprivation, inevitably prevent the *perfectness of intellectual development. Solid acquirements, profoundness in any science, or even strong sense, we sincerely believe, are rarely found in connexion with the practical* observance of the reverse of our doctrine. *Is this fanciful speculation?* It certainly has all the affinities of cause and consequence." (Pp. 179, 180, 181, 182.)

Here then, indeed, we have a new doctrine?—a most brilliant emanation from a very highly cultivated and philosophic mind. Climate, religion, civil liberty, &c., so long placed amongst the grand causes of national character, have, in fact, nothing to do with it;—all depends upon the quantity of animal food consumed;—the mental capacity of a people can be only accurately measured by the length of its butcher's bills; and countries now sunk to the lowest depths of ignorance and effeminacy, have only to commence the consumption of flesh meat, to become distinguished in arts and arms, and to figure in the literary and scientific world. But let us examine this theory a little more in detail; and, first, we will notice the reviewer's words, "a popular argument quoted in the work before us," &c. This is a misrepresentation. The quotation referred to, does not "*contrast*" "*the character of nations*," *and award the* "*advantage*" *in favor of the* "*millions in Asia, Italy, and the South of Europe.*" It is nothing more or less than a part of the argument employed by the Journal of Health, to prove that animal food is not indispensably necessary for the sustenance of man. The following is the quotation:—"We beg leave to state, that the large majority of mankind do not eat any animal food, or so sparingly, and at such long intervals, that it cannot be said to form their nourishment. Millions in Asia are sustained by rice alone,—with, perhaps, a little vegetable oil for seasoning. In Italy, and Southern Europe generally, bread, made of the flour of wheat, or Indian corn, with lettuce, and the like, mixed with oil, constitutes the food of the most robust part of its population. The Lazzaroni of Naples, with forms so active and finely proportioned, cannot even calculate on this much;—coarse bread and potatoes are their chief reliance;—their drink of luxury is a glass of ice water, slightly acidulated. Hundreds of thousands, we might say millions, of Irish, do not see flesh meat or fish from one week's end to the other;—potatoes and oatmeal are their articles of food;—if milk can be added, it is thought a luxury; yet where shall we find a more healthy, robust population, or one more enduring of bodily fatigue,—and exhibiting more mental vivacity? What a contrast between these people, and the inhabitants of the extreme north,—the timid Laplanders, Esquimaux, and Samoideans,—whose food is almost entirely animal." (Journal of Health.) But why did not the reviewer notice the Irish in this quotation, as well as the inhabitants of Italy and Asia? Doubtless, because it would not have exactly suitéd his theory. Has living entirely on potatoes had the inevitable effect of preventing "*the perfectness of intellectual development*" in the Irish? Are "*solid acquirements, profoundness in any science, or even strong sense,*" no longer to be found among the robust, brave, and justly esteemed witty sons of Erin? Ah! thou gem of the ocean! could not the glories of thy Wellington—the impassioned eloquence of thy Curran, and the classic melodies of thy Moore,—save thee from the debasing—demoralizing—yea, brutalizing influence of butter-milk and potatoes? Shall the warrior's torch no more be kindled at the flame of Irish valor? Shall the bright corruscations of Irish wit no more delight the world? Shall the magic influence of Irish minstrelsy no more sooth and soften the rugged heart? Must all—all, pass away, for want of the flesh of beeves and porkers, and the invigorating nutriment of the shambles?—But where will the land o' cakes, and the birth-place of the heroic Switzer, stand in the catalogue of nations? Have the oat-cake and onion, and

"The healsome parritch, chief of Scotia's food,"

tamed the courage, and dimmed the intellect of Scotia's bairns? Are no "*solid acquirements, profoundness in any science, or even strong sense,*" exhibited by these lovers of oatmeal? In good earnest, I would ask, has the diet of the lower classes in Scotland and Switzerland, which is not much less exclusively vegetable, than that of Italy, (if my own observations during a sojourn in each of these countries, are not altogether incorrect,) had the effect to "prevent the perfectness of intellectual development?"

Again says the reviewer, "*we would ask our readers to compare the inhabitants of Italy of the present day,*" &c. Are we to understand by this, that the ancient Romans consumed more animal food than the Italians of our times? What says Juvenal, as quoted by the author of Rituum qui olim apud Romanos obtinuerunt? (G. H. Nievpoort;) "cœna, (the principal meal of the day,) antiquissimis temporibus quidem simplicissima—fuit, *ex pulte* scilicet plerumque vel *olearibus.*"

"*The Spanish and Portuguese find but a miserable return for their abstinence,*" &c. Will the very erudite reviewer condescend to inform us at what particular period the Spaniards first commenced this said course of "*abstinence?*" the sad effects of which he depicts in such glowing colors. For my own part, I am free to acknowledge, that I have not been able to discover any material difference in the quality of the food of the Spaniard of 1830, and that of his forefathers three hundred years ago. Ferdinand and Isabella (the "*age*" we are told of "*dignity and learning*") died after the commencement of the 16th century; and Burton, (the celebrated author of the Anat. of Melanch.,) who lived in the same century, expressly says: "In Spain, Italy, and Africa, they live mostly on roots, raw herbs, and camel's milk; and it agrees well with them;—which to a stranger will cause much grievance." [P. 109.]

But what says the reviewer of France? Why that she "has indeed had *her Bonaparte, La Place and Cuvier;*" but that the "*general character of her population is incomparably inferior to that of the former,* [England, Germany, and Holland,] *in the respects of which we have spoken,*" viz., "*moral vigor, philosophical research, and the prevalence of science.*"

This is really putting the climax to the reviewer's very sagacious remarks about foreign countries. "*The general character of her population is incomparably inferior in moral vigor, philosophical research, and the prevalence of science*"*!!!*—For the honor of my country, I would hope that this is some unaccountable mistake of the printer.—I can scarcely believe, that any man of ordinary information, (unless he had taken leave of his senses,) would sit himself up as a reviewer, and actually publish to the world a paragraph like the above.(*f*) Is there any country on the face of the earth, where the sciences are cultivated with more ardor, or more successfully, than in France? "Le centre de toutes les sciences, et la patrie de ceux qui s'y addonnent." To whom are we most indebted for the present perfected state of chemistry, physiology and pathology?

Have such men as Dupuytren, Roux, Boyer, Andral, Laennec, Bichat, Richerand, Thenard and Orphilla, in our own profession, (a list of the Frenchmen even of our own times, distinguished in all the other arts and sciences, would of itself fill a volume,) no just right to be ranked among the most successful cultivators of the sciences?—But have the very canaille of Paris, subsisting almost entirely on bread, given no recent evidence of "*moral vigor*," in shaking from their necks the yoke of the oppressor? or is it true, that the vivacious, 'cheer-

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(*f*) Our printer is certainly not accountable for any mistake, yet he may pity the self-degradation of Dr. Avery; nor will the "honor of the country" be in the least impaired, though we again expose the impudent perversions of our remarks in the "Review;"—Dr. Avery will find, too, that we have not taken leave of our senses, except it be in thus allowing ourselves for a moment to notice him.

Our readers will find at page 180, instead of the sentence quoted above, the following incidental remarks; from which it will at once be seen, that we only mean to state a simple fact, not *caused* by, but *connected* with the use of solid and stimulating food; and that France in general, was inferior to the other countries mentioned, "in nearly all that is rich in the improvements and dissemination of religion" &c., not, "in moral vigor," &c.; this is a part of a previous sentence. Our readers are again called to notice the character of the man we have to deal with.

"It would be an interesting investigation, to pursue this subject to its full extent;—the result we can anticipate; and let us not be called visionaries, if we say that, with some few exceptions, all moral vigor, philosophical research, and the prevalence of science, would be found to be *connected* with indulgence in the use of solid and stimulating food, and the discriminating enjoyment of whatever may gratify the taste or appetite. The countries of Addison, Johnson and Sheridan; of Boerhaave and De Witt; of Luther and Goëthe, are proverbial for their substantial fare, and the liberal pleasures of the table; *and in modern history nearly all that is rich in the improvements and dissemination of religion, philosophy, arts and sciences, has emanated from Great Britain. Germany and Holland.* France, more fastidious in her enjoyments, has indeed had her Bonaparte, La Place and Cuvier, but the general character of her population is incomparably inferior to that of the former countries, in the respects of which we have spoken." The two last sentences are so evidently connected, that no one could misunderstand us.

ful, polite *bourgeois* of the smallest village in France, has become from his diet, "*enervated,*" "*his generous spirit*" "*debased—his ambition subdued—his resistance to oppression enfeebled, or totally lost—his whole intellectual* and *physical energy*" "*impaired*"?—Oh! fie! fie! well may Americans blush for the learning of their country, when it is represented by such productions as this. The writer need not repeat, "*let us not be called visionaries,*" or be anxious lest his remarks should be called, "*fanciful speculations.*" If they appear to men of sense in general, in no more unfavourable light than this, they will be very fortunate, to say the least. His closing remark is, "*when our author next appears before the public,*" (by the by, I rather doubt this,) "*we shall congratulate him, if it be the medical public only.*" I leave others to judge from what I have already said, whether it is probable, that I should feel myself particularly flattered, by congratulations from such a quarter. I have the honor to be, gentlemen,

Your Obedient Servant,
S. W. AVERY.

Without making any farther commentary on the foregoing letter, than the two or three notes which seemed to be required, in justification of our opinion of the writer, we will close the subject at once, and for ever, with the bare remark, that the whole communication is about as pretty a specimen of impudent perversion, pedantry, and inanity, as is seldom met with. The premises are false, and wilfully so, when they are drawn from the "Review;" or where, by accident, this is not the case, the arguments,—if loquacity can be called such,—dwindle into an inherent silliness.

If, in the very few words we have said, an expression of impatience may have escaped us, we confess that our pity for the weakness of the man, must have been for a moment forgotten, in indignation at his want of a proper sense of honor as a writer. But we will be pardoned, when it is recollected, that whatever may be our humanity, few of us can exercise the equanimity of temper of Uncle Toby, in ridding ourselves of the buzzing of a troublesome insect. G.

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